

SUBJECT: LMM 28/09/21 - THE CITIES RACE TO ZERO AND CITIES RACE TO RESILIENCE CAMPAIGNS

MOTION

That City of Newcastle:

- 1 Notes that we continue to be recognised as a leading local government authority in Australia when it comes to implementing our strong and decisive initiatives to address climate change, including the adoption of our Climate Action Plan 2021-2025 and becoming the first NSW Council to be powered by 100 per cent renewable electricity in January 2020;
- 2 Reinforces our strong view that there is a global climate emergency and an urgent need for real action on climate change and that we have formally committed to the principles and targets of the Paris Climate Agreement;
- 3 Notes that we have received correspondence from Steve Gawler, Director, ICLEI Oceania inviting us to join the Cities Race to Zero and Cities Race to Resilience campaigns in the lead up to the International Climate Conference (COP26) in Glasgow in 2026;
- 4 Takes the Cities Race to Zero Pledge, which asks Council to do the following:
 - a Publicly endorse the following principles:
 - i We recognise the global climate emergency.
 - ii We are committed to keeping global heating below the 1.5°Celsius goal of the Paris Agreement.
 - iii We are committed to putting inclusive climate action at the centre of all urban decision-making, to create thriving and equitable communities for everyone.
 - iv We invite our partners – political leaders, CEOs, trade unions, investors, and civil society – to join us in recognising the global climate emergency and help us deliver on science-based action to overcome it.
 - c Pledge to reach (net)-zero in the 2040s or sooner, or by mid-century at the latest, in line with global efforts to limit warming to 1.5°Celsius.
 - d In advance of COP26, explain what steps will be taken toward achieving net zero, especially in the short- to medium-term. Set an interim target to achieve in the next decade, which reflects a fair share of the 50% global reduction in CO2 by 2030 identified in the IPCC Special Report on Global Warming of 1.5°Celsius.
 - e Immediately proceed to planning at least one inclusive and equitable climate action as listed on www.citiesracetozero.org that will help to place your city on a resilient pathway consistent with the 1.5°Celsius objective of the Paris Agreement and begin implementation no later than 2022.

- f Report progress annually, beginning no later than 2022 to your usual reporting platform.
- 5 Takes the Cities Race to Resilience Pledge, which asks Council to do the following:
- a Integrate climate change adaptation and resilience in all aspects of urban planning and undertake a community-wide climate risk and vulnerability assessment that also includes all vulnerable communities.
 - b Plan to use available knowledge and scientific evidence, including data and spatial analysis, for decision-making and action, and outline interim targets and milestones as part of a long-term commitment for citywide action.
 - c Immediately proceed to taking action by committing to at least one of the resilience actions as listed on www.citiesracetoresilience.org by COP26.
 - d Report commitments by COP26 - and progress annually thereafter, to an existing or recommended reporting platform. If you have not reported before, you will be contacted by partners for support.

BACKGROUND

Race to Zero Campaigns:

Race To Zero (R2Z) is the global campaign to rally that leadership and support from businesses, cities, regions, investors for a healthy, resilient, zero carbon recovery that prevents future threats, creates decent jobs, and unlocks inclusive, sustainable growth.

City of Newcastle has been invited to join over 750 global cities who have already joined Cities Race to Zero all advocating for stronger action on climate change and resilience.

There are two opportunities for councils to collaborate locally and internationally towards, at and beyond the International Climate Conference (COP26) in Glasgow. They are sibling campaigns and we have been invited to join both:

- Cities Race to Zero Campaign – an international campaign, supported by the UNFCCC and UK Government, for local government to showcase climate leadership and gain international recognition at COP26, commit to stronger action and advocate to increase the all nations' climate ambition. Cities Race to Zero is the local government pathway for involvement in Race to Zero.
- Cities Race to Resilience - a sister campaign to R2Z but focussing on building resilience to climate change, particularly for your most vulnerable communities. The Cities Race to Resilience offers cities the opportunity to showcase action and drive ambition, according to their own contextually relevant local landscape.

The Cities Race to Zero campaign is completely in line with Global Covenant of Mayors (GCoM) commitments and the ICLEI *GreenClimateCities* program and is not considered a separate campaign but as a mechanism for raising the ambition of your current mitigation target to Net Zero.

City of Newcastle can make the pledge on the Cities Race to Zero website or by contacting GCoM Oceania.

As a GCoM member City of Newcastle can continue to report our progress through the same CDP - ICLEI Unified reporting system as you do now.

There is no additional requirement other than to register on the official websites.

City of Newcastle's advocacy on climate change at the national and international level:

City of Newcastle is a founding member of Local Governments for Sustainability (ICLEI), a founding member of the Business Renewables Centre, a member of the Cities Power Partnership, a member of the Global Covenant of Mayors for Climate and Energy, and recently became a Pioneer City for ICLEI's CitiesWithNature program.

City of Newcastle is represented on the Global Covenant of Mayors for Climate and Energy (GCoM) Oceania Committee and the ICLEI Oceania's Regional Executive Committee by the Lord Mayor.

Councils lead world's largest alliance of climate-action focused cities in Australia, New Zealand and the Pacific

October 2020:

A new committee for the Global Covenant of Mayors for Climate & Energy (GCoM) in Oceania, established to address climate change from a local level has met for the first time.

The committee aims to boost collaboration between cities, local governments and community partners globally to achieve emissions reductions while adapting to a changing climate.

The Global Covenant of Mayors for Climate & Energy is the world's largest global network of local councils taking action on climate change, linking Oceania Mayors with over 10,000 cities from 120 countries, representing more than 950 million people world-wide.

The committee comprises city leaders from Australia, New Zealand and Papua New Guinea and joins with nine other global regions to prioritise climate change action. Additional members including peak local government associations and other partners will also soon be invited to join the Committee.

The committee also supports a local Mayor to represent Oceania on the Global Board, co-chaired by European Commission Executive Vice President Frans Timmermans and former New York City Mayor and UN Envoy Michael Bloomberg.

“The Oceania region is a unique mix of the highest per capita emitters in the world and communities most impacted by climate change” Newcastle Lord Mayor and Committee Chair, Nuatali Nelmes said.

“It’s extremely important that we work together across the region to achieve concrete sustainability and low emission outcomes.”

“Our collective priorities for the next year are to grow the GCoM network, build powerful partnerships with aligned organisations, and advocate to governments to support city climate action” Cr Nelmes said.

ICLEI Oceania is the GCoM regional secretariat, and all local councils are invited to become a signatory to the Global Covenant of Mayors for Climate & Energy. For more information, contact oceania@iclei.org.

The GCoM Oceania Committee members:

Lord Mayor Nuatali Nelmes (Chair)
Governor, Port Moresby, Hon Powes Parkop
Lord Mayor, Wollongong City Council, Gordon Bradbery AM
Lord Mayor Anna Reynolds (Hobart)
Lord Mayor Sandy Verschoor (Adelaide)
Mayor Ann Ferguson (Mt Barker)
Mayor Michael Coxon (West Torrens)
Mayor Hon George Gear JP (Melville)
Cr Fisher Wang (Rotorua Lakes)
Mayor Aaron Hawkins (Dunedin)
Mayor Michael Hewitson (Unley)
Cr Amanda Stone (Yarra), Chair ICLEI Regional Executive Committee
Mayor, Wyndham City Council, Josh Gilligan
Mayor, Wellington City Council, Andy Foster
Councillor, Mornington Peninsula Shire Council, Hugh Wetherall Fraser

Partners:

Cr Linda Scott, President Australian Local Government Association
Ms Karibaiti Taoaba, Executive Director Commonwealth Local Government Forum (Pacific).
Mr Bernhard Barth, UN Habitat Asia-Pacific
Ms Mira Fajar, United Cities and Local Governments Asia-Pacific

Local council leaders join forces to support local government sustainability action

July 2020

Five Mayors and Councillors from Australia and New Zealand have been newly elected to [ICLEI Oceania’s Regional Executive Committee](#), an advisory group supporting local governments and sustainable development, including:

- Aaron Hawkins - Mayor, Dunedin City Council
- Amanda Stone - Councillor, Yarra City Council, Victoria
- Ann Ferguson - Mayor, Mount Barker District Council, South Australia
- Anna Reynolds - Lord Mayor, City of Hobart, Tasmania
- Nuatali Nelmes - Lord Mayor, City of Newcastle

The Committee will guide the strategic direction of ICLEI Oceania and support sustainable development and climate action of local governments across Australia, New Zealand and the Pacific over the next three years.

ICLEI – Local Governments for Sustainability is a global network of more than 1,750 local and regional governments committed to sustainable urban development.

“We are very pleased to welcome such an inspiring group of Mayors and Councillors to ICLEI Oceania’s Regional Executive Committee, and sincerely thank the outgoing members for their contributions,” said ICLEI Oceania’s Regional Director, Steve Gawler.

“Their leadership experience will help local councils accelerate climate action and respond to common challenges of development, especially in the context of pandemic recovery.”

The Committee will meet for the first time in August 2020, with one representative to be nominated to the ICLEI Global Executive Committee and provide guidance on how cities globally should work together to tackle major environmental issues like climate change.

ICLEI is the focal point for local government for all UNFCCC processes, and in Oceania, ICLEI supports local governments through international programs such as the [Global Covenant of Mayors for Climate & Energy](#), and [CitiesWithNature](#).

Australian Local Government Climate Review 2021 'The ICLEI Ironbark Report':

In 2021, Ironbark Sustainability and [ICLEI Oceania](#) invited Australian council and community stakeholders to take part in a wide-ranging survey to better understand local climate change targets, actions, strategies and policies. The survey was developed with input from [Beyond Zero Emissions](#), [Cities Power Partnerships \(CPP\)](#), [Climate Emergency Australia](#), [ClimateWorks](#) and a number of local government associations and councils. It resulted in 272 responses, including 94 council representatives, 145 individual and 33 community group respondents.

[The previous version of the review](#), released in 2018, was the end result of **the most comprehensive local government and climate change survey in Australian history**. It was used to inform policies, state parliamentary inquiries and aid decision makers throughout Australia as well as leading to the development of new tools like the [Snapshot Climate](#) tool.



At the launch of the 2021 Australian Local Government Climate Review at the 2021 ALGA Conference in Canberra: Lord Mayor Nuatali Nelmes (City of Newcastle), Lord Mayor Anna Reynolds (City of Hobart), Liz de Chastel (ALGA), Cr Amanda Stone (City of Yarra, ICLEI), Portia Odell (CPP), Mayor Gabrielle de Vietri (City of Yarra), Mayor Ann Ferguson (Mount Barker District Council, ICLEI)

The 2021 version, launched at the [Better Futures Australia](#) Forum on 17th August 2021, provides a solid evidence-base and a comprehensive analysis of climate change actions, barriers and opportunities facing councils and communities.

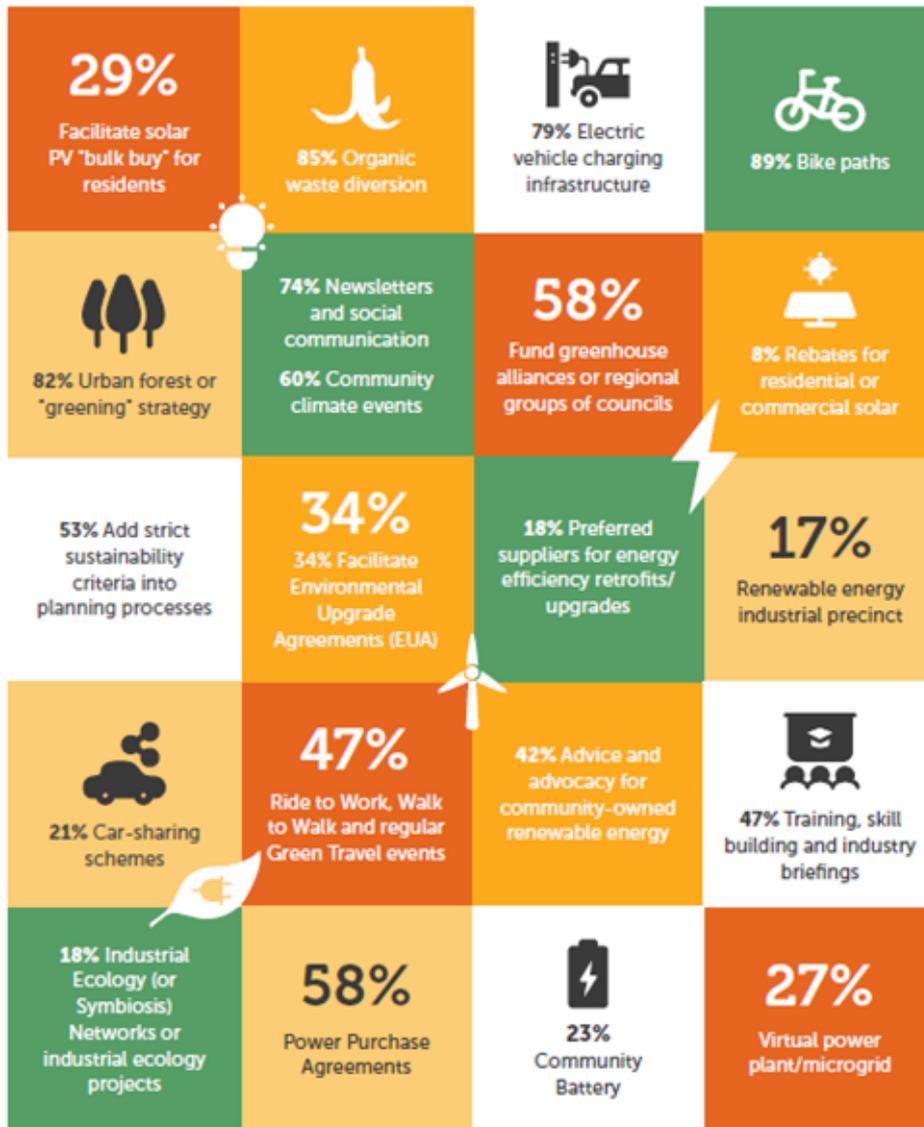
The 2021 Review is clear on the urgency to collaborate with all levels of government to accelerate local and regional action at the scale and pace needed to keep global temperature rise within a 1.5°C increase of pre-industrial temperatures.

One thing that stands out sharply, especially given latest [IPCC](#) report, is that 83% of respondents reported that climate change has already impacted their local community or council operations. Impacts being experienced included increased risk of bushfires, increased flooding, record high temperatures and coastal erosion. The impacts of these climate change events on the local economy, namely agriculture and tourism, were also noted. These responses signal that climate change is not a future concern for councils and their communities, but rather an immediate one.

While the majority of councils reported experiencing climate change impacts, only 10% felt that the council or the community was well-prepared to respond to these impacts. This is a serious discrepancy and highlights the lack of preparedness to respond to climate impacts.

The 2021 Review demonstrates the local understanding of the scale of the response required, the level of ambition throughout the country and the scope of climate action already undertaken by Australian councils and communities. Notably:

- 73% of responding councils have set or are planning ambitious corporate or operational emissions reduction targets.
- 80% of responding councils have set or are investigating developing community-wide emissions reductions targets.
- Almost a third of councils reported having a fossil fuel divestment commitment or intended to implement a commitment shortly.
- 93% of the community respondents are collaborating with their local council.



Proportion of councils doing/planning to do actions, community-wide emissions

If all of the targets set by Australian local governments were met, then an incredible 88,200 kt CO_{2e} emissions would be reduced. These commitments would bring Australia 96% of the way to meet its current target of 28% reduction by 2030. The huge emissions reduction potential and ambition demonstrated by councils would be secured and delivered faster if there was commensurate support and ambition from the Federal Government.

The results from the Review clearly demonstrate that we need all levels of government and all sectors of society to work together to face the climate challenge. Local councils are particularly well-placed to drive and influence action on climate change through the services they deliver, their regulatory and strategic functions, and their roles as community leaders, major employers and large-scale procurers.

Community-level organisations also offer unique attributes not found in organisations operating at state, national and international levels: they are often champions of

change, ideas and innovation, understanding local context and the impacts of decisions on local businesses, environment and social settings. Their collaboration is central to the design of effective and implementable solutions.

With the launch of the Australian Local Government Climate Review 2021 everyone can now delve into the details of where the sector is placed when it comes to climate change. The Review has everything you need to know, what councils and communities are doing, case studies, targets, barriers, opportunities and recommendations – all based on the data obtained from the surveying local government officials and community representatives.

ATTACHMENTS

Attachment A: Correspondence from Steve Gawler, Regional Director ICLEI Oceania, inviting City of Newcastle to join the Cities Race to Zero and Cities Race to Resilience campaigns.

Attachment B: [City of Newcastle Climate Action Plan 2021-2025](#)

Attachment C: Australian Local Government Climate Review 2021

<https://www.ironbarksustainability.com.au/resources/articles/launch-of-the-australian-local-government-climate-review>



Special Invitation to Join!

Two important global climate campaigns in the lead up to UK COP26

Dear Mayor and Councillors,

I am writing to you with some important information for councils committed to action on climate change. Because of your leadership, and through your membership of the [Global Covenant of Mayors](#), your council has an opportunity to be further recognised nationally, regionally and globally in the lead up to and during the upcoming COP26 meeting in Glasgow UK. You would be joining other leading cities, businesses, NGOs, and others calling for greater ambition on climate action and resilience.

Race To Zero (R2Z) is the global campaign to rally that leadership and support from businesses, cities, regions, investors for a healthy, resilient, zero carbon recovery that prevents future threats, creates decent jobs, and unlocks inclusive, sustainable growth.

We invite you to consider joining over 750 global cities who have already joined Cities Race to Zero all advocating for stronger action on climate change and resilience.

There are two opportunities for councils to collaborate locally and internationally towards, at and beyond the International Climate Conference (COP26) in Glasgow. They are sibling campaigns and you can join either or both:

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The Cities Race to Zero campaign is completely in line with [Global Covenant of Mayors](#) (GCoM) commitments and the ICLEI *GreenClimateCities* program and is not considered a separate campaign but as a mechanism for raising the ambition of your current mitigation target to Net Zero. You can make the pledge on the [Cities Race to Zero website](#) or by contacting GCoM Oceania .

As a GCoM member you can continue to report your progress through the same CDP - ICLEI Unified reporting system as you do now. There is no additional requirement other than to register on the official websites.

There are many benefits for your city in signing up to these campaigns, including:

- further recognition nationally and internationally as a leading city for climate action at Race to Zero / Race to Resilience events.
- a way for those already involved in the Global Covenant of Mayors to nominate new science-based targets and accelerate action.
- an opportunity to join with other cities and other sectors, advocating together in 2021 (and beyond) for stronger national commitments on climate change, including, recognition of and support for local climate programs.
- access to technical and operational support provided by ICLEI Oceania to plan, implement and report on climate action in line with the Paris Agreement.

Please feel free to contact us to discuss this special invitation or ask questions.

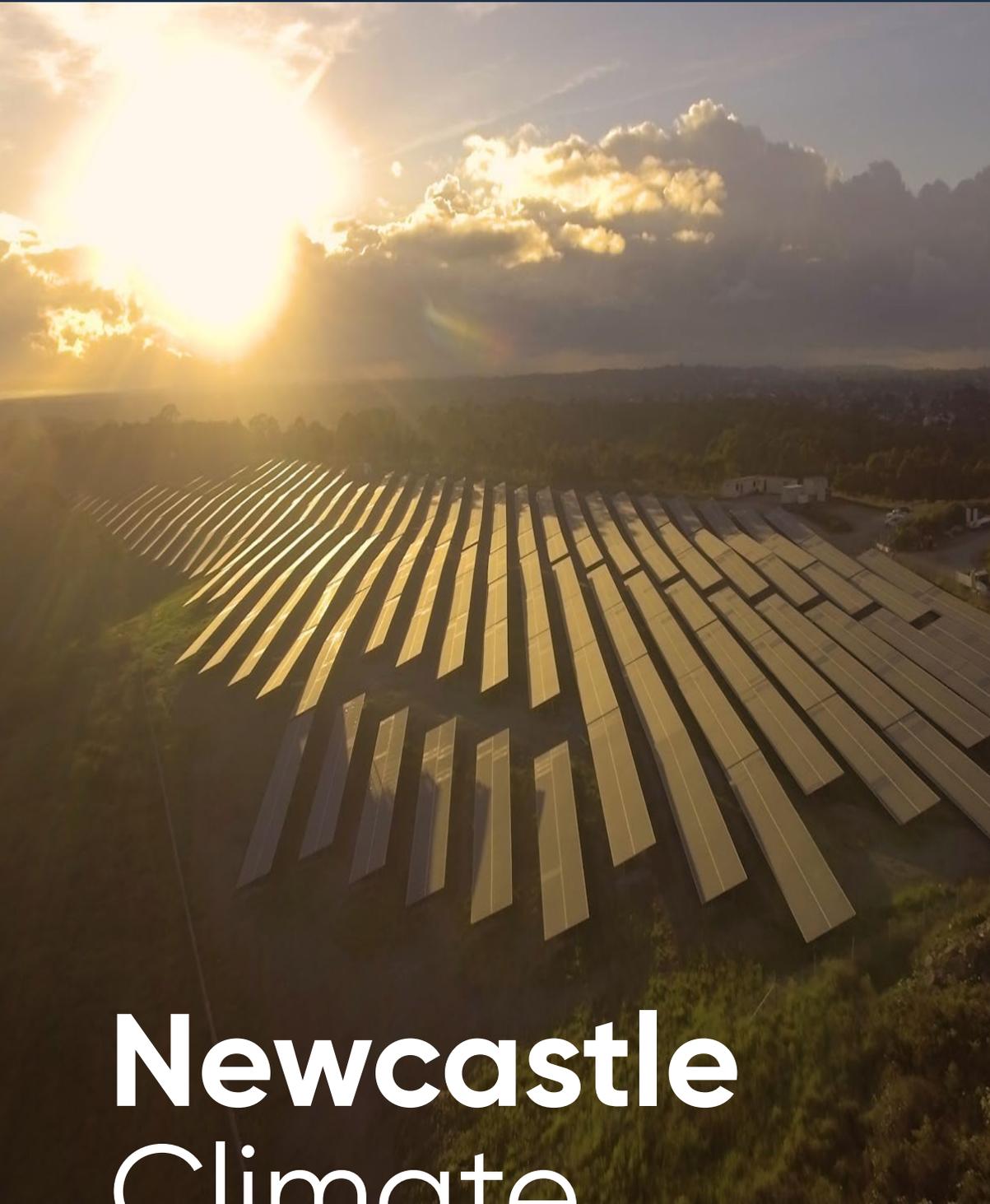
Helpdesk.oceania@iclei.org or call us on +613 9639 8688

Sincerely,



Steve Gawler

Regional Director ICLEI Oceania



Newcastle Climate Action Plan

2021 – 2025

newcastle.nsw.gov.au



City of
Newcastle

Acknowledgement

City of Newcastle acknowledges that we operate on the grounds of the traditional country of the Awabakal and Worimi peoples. We recognise and respect their cultural heritage, beliefs and continuing relationship with the land and waters, and that they are the proud survivors of more than two hundred years of dispossession. City of Newcastle reiterates its commitment to address disadvantages and attain justice for Aboriginal and Torres Strait Islander peoples of this community.



We are committed to contributing towards achievement of the United Nations' Sustainable Development Goals (SDGs). We have adopted the SDGs and New Urban Agenda as cornerstones for our planning.

In September 2015, Australia was one of 193 countries, to commit to the SDGs. These goals provide a global roadmap for all countries to work towards a better world for current and future generations.

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Message from the Lord Mayor **Nuatali Nelmes**

City of Newcastle is a proudly forward thinking and progressive Council that has long led the way, by working in partnerships to develop and implement strategies and initiatives to tackle climate change head on.

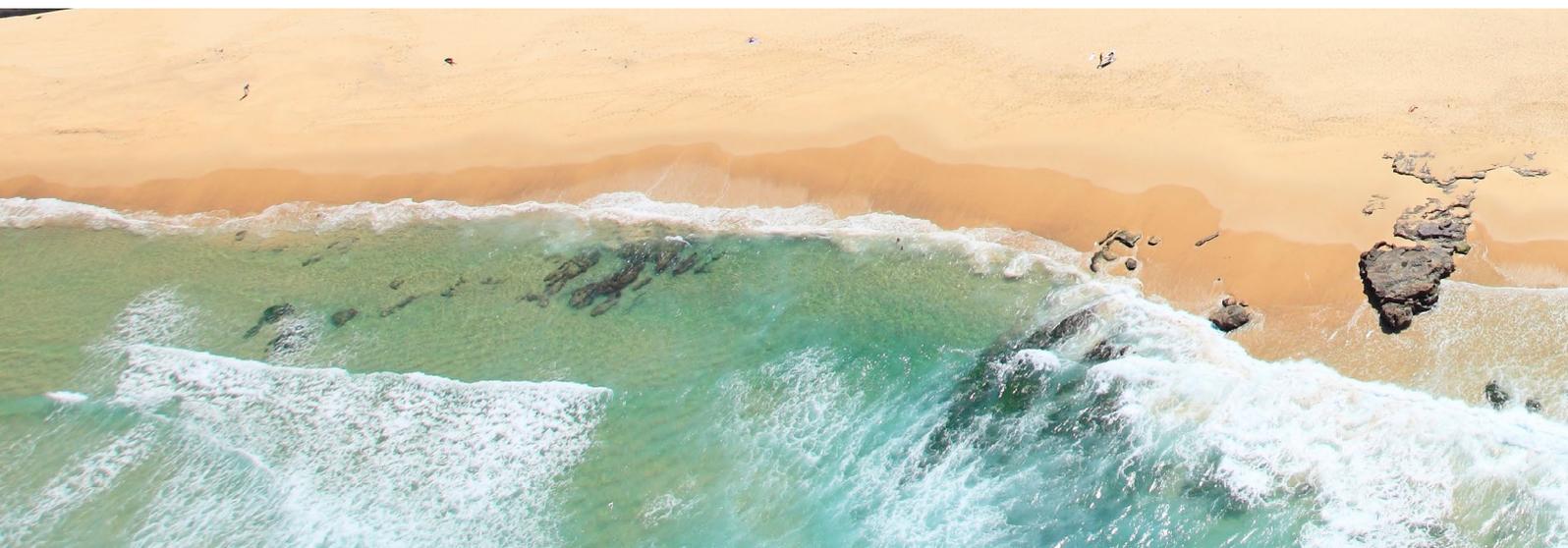
In January 2020, we delivered on the commitments of our 2011 Carbon and Water Management Action Plan and became the first NSW Council to be powered by 100 per cent renewable electricity. Our transformation to a sustainable city will continue under this new Climate Action Plan. Over the course of the last decade, the City has made significant and sustained progress in limiting its carbon emissions and working with the community on mitigating and adapting to the effects of climate change.

City of Newcastle recognises that there is a global climate emergency and an urgent need for real action on climate change. As a City, we have formally committed to the principles and targets of the Paris Climate Agreement. It is a major challenge to develop and maintain resilient and liveable cities in the face of climate change, global economic shifts and technological change. Cities must deliver and manage the infrastructure, industries and actions required, to successfully make their low carbon transition while ensuring that those most impacted by this change are supported, retrained and provided opportunities for a just transition in a new economy.

Our guiding principles include considering the long term and cumulative effects of actions on future generations, embedding the principles of ecologically sustainable development and incorporating the United Nations Sustainable Development Goals (SDGs) as a cornerstone of our planning. Focusing on continuous evaluation and improvement and through strong and consistent actions to reduce our emissions, City of Newcastle is now recognised as a leading local government authority when it comes to implementing initiatives to address climate change.

Having successfully navigated previous economic transformations, Newcastle must position itself to take full advantage of an emerging low carbon economy. Through supporting areas such as low emissions technologies, zero emission industries, renewable hydrogen and ammonia export hubs, green metal and minerals processing and large-scale renewables, Newcastle has the opportunity to be a leading global centre for clean technology innovation.

By supporting residents, business and industry to act more sustainably, encourage local resilience and build a circular economy based on local sourcing, production, manufacturing and consumption of materials, the City can continue to build a prosperous, healthy, equitable and sustainable community and propel Newcastle towards a net zero emissions future.





Message from the CEO

Jeremy Bath

Cities are responsible for the vast majority of global emissions and also provide the biggest opportunity for action to mitigate the effects of climate change. While there is much focus on the actions of international, federal and state governments, there is a significant amount that can be done to tackle climate change at the local government level. Through urban planning and advocacy, councils have the power to reduce the impact of carbon-intensive operations on our communities.

In Newcastle, we're doing things smarter and more sustainably. As a vulnerable coastal community, addressing the challenges of a changing climate is vital for the future wellbeing of our residents and economy.

Over the past ten years, City of Newcastle has delivered innovative and award winning education programs, a Hunter-wide business energy efficiency program, made our buildings more energy efficient, installed solar PV and battery storage, upgraded thousands of street lights to LED, planted thousands of new street and park trees to address urban flooding and urban heat island, and built a five megawatt solar farm on a closed landfill site. We are also building an advanced organics processing facility to revolutionise food and garden waste treatment. These actions not only save millions of dollars in operational costs but also significantly reduce our carbon emissions.

In developing this new Climate Action Plan, City of Newcastle has looked to global best practice examples and reshaped them for our local context, engaging with the community and focusing on action to lead Newcastle through complex but unavoidable challenges.

While we still have much to do in reducing emissions in our own operations, we also need to work closely with Newcastle businesses, industry and the community to help drive change and transition to a net zero emissions city.

Rapid decarbonisation will require leading by example and using every lever available to us, such as encouraging sustainable transport options (including active and public transport), accelerating the uptake of electric transport and continuing the rollout of public electric vehicle charging stations. We will also focus on smarter use of energy and other resources using the best available technology, helping to build new markets for low emissions products and materials and demonstrating both the environmental and local economic benefits of acting more sustainably.

City of Newcastle is committed to creating a safe climate future, working collaboratively, sharing knowledge and experience and advocating for new sustainable economic opportunities.

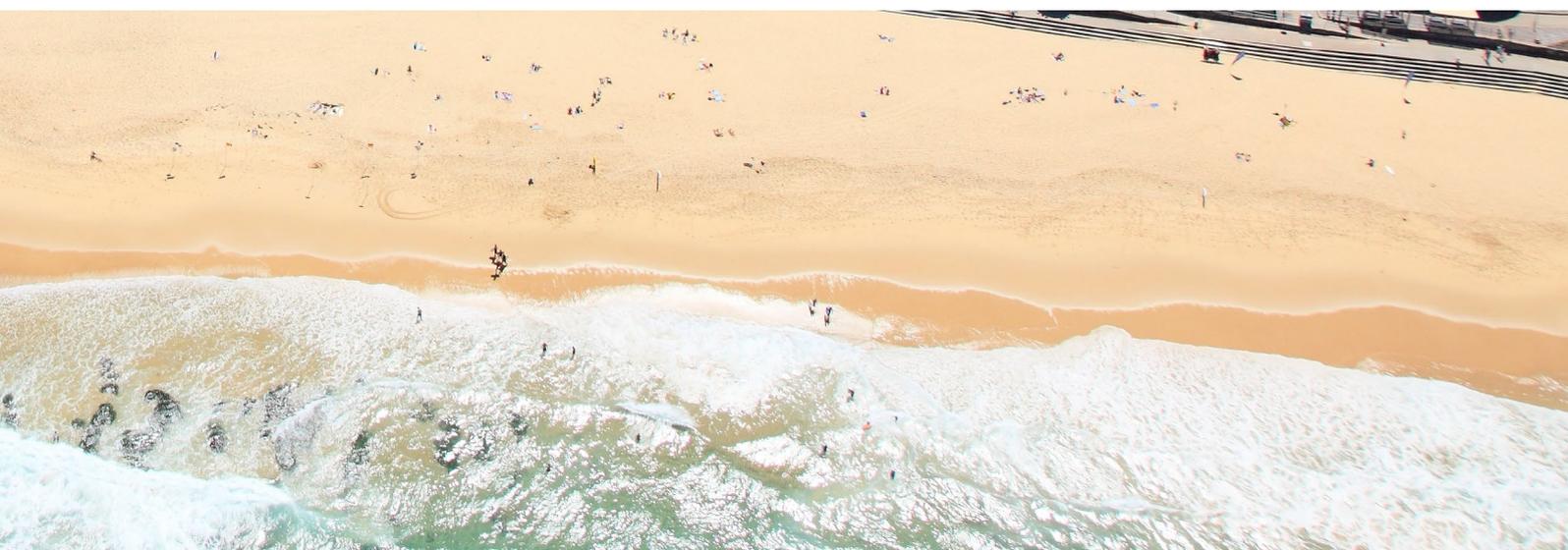


Image:
City of Newcastle Smart Lighting,
Hunter Street



Addressing the Challenge

As we enter a critical decade for action on climate change, we are already beginning to glimpse the impacts that a changing climate may have on our everyday lives. Likely major consequences of climate change will include more frequent and widespread bushfires, flooding, extreme heat and increased risk of disease and pandemics¹. The increase of these events will have far-reaching and unprecedented changes in all aspects of society and this clearly highlights the vulnerabilities that Australians will face. Globally, 2019 was the second hottest year on record, (after 2016) with average temperature records for the decade 2010–2019 the highest on record² and each decade since the 1980s warmer than the previous one.

At a global level, the Paris Climate Agreement committed international governments, including Australia, to take and encourage action to address climate change through reducing greenhouse gas emissions and undertaking climate change adaptation³. To limit global warming to below 2°C above preindustrial levels and as close to 1.5°C as possible, the Intergovernmental Panel on Climate Change (IPCC) states that the world needs to reach carbon neutrality no later than 2050 and even then, it is a 50/50 chance whether warming can be kept within 1.5°C⁴. With temperatures having already increased by 1.1 degrees celsius, according to the United Nations, emissions globally will have to fall 7.6% year on year for the next decade to stay on track to meet the 1.5°C temperature goal of the Paris Agreement⁵.

To meet this challenge, governments, business and industry all need to adopt 'science-based' targets that are aligned with the latest climate science⁶.

In Australia, targets to reach net zero emissions have been set by every State and Territory, with New South Wales committing to taking decisive and responsible action on climate change through a Net Zero Plan (2020–2030) and a goal of net zero emissions for the entire state by 2050⁷.

The NSW Government has also undertaken detailed work to look at the benefits and competitive advantages that decarbonisation can have in generating economic development, prosperity and jobs growth in NSW, positioning the State as a global leader in innovative technologies and services⁸.

Cities are at the forefront of responding to a changing climate and the systematic shocks that will be faced in the future. At the City of Newcastle (CN), reducing emissions and mitigating the effects of climate change has been a focus area for more than 25 years. During this time, CN has delivered strong cuts in emissions across its operations making significant financial savings in the process. It has led by example and formed strong partnerships, in helping the City shift towards a low-carbon future and transition to an economy of greater self-sufficiency and resilience.

Continuing the work of reducing emissions in the City, this Climate Action Plan (CAP) is separated into two parts – an action plan to reduce CN's operational emissions and an action plan to reduce emissions from the City as a whole. The CAP sits under the City of Newcastle's 2030 Community Strategic Plan (CSP) and environmental strategy. Although it's key goal is in the mitigation of climate change and reducing emissions, it also complements other strategies and plans that are focused on climate adaptation, an equally crucial area for the City to address.

To meet the challenges of a climate emergency, take advantage of the economic opportunities from meeting emissions targets and create a net zero emission City, it will take collective action, commitment and leadership from all sectors of the community. Sharing knowledge, research and experience to drive down emissions in Newcastle and beyond will help deliver the community's vision for a smart, liveable and sustainable global city.

2008/09

Our Baseline Emissions Data

In development of the preceding 2020 Carbon and Water Management Action Plan (CWMAP) adopted in 2011, City of Newcastle (CN) undertook a detailed carbon footprint analysis for its Operations in accordance with the National Greenhouse and Energy Reporting (NGER) guidelines and emissions factors stipulated in the Australian Government's National Greenhouse Account Factors. This set a baseline year of 2008/09 and this remains as our baseline data that CN tracks its progress against. As operational emissions continue to decrease and the opportunity to reach net zero emissions approaches, further detailed carbon footprinting will need to be undertaken if independent verification of carbon neutral or net zero emission status is to be attained.

Our baseline data or starting point, identified our emissions (in tonnes of Carbon Dioxide equivalent or t CO₂-e) under three categories or 'scopes' based on their source.

Scope 1 Emissions:

43,339 t CO₂-e in 2008/09

Are the direct emissions from combustion of fuels used by CN Operations, fossil-based gas, liquid petroleum gas (LPG), refrigerants in air conditioning equipment and vehicles. This figure also includes landfill emissions from Summerhill Waste Management Centre (WMC), although these could be considered a community emission as they include waste received from residents and commercial/ industrial sources both within the Local Government Area and outside of Newcastle. Estimating these emissions is a difficult task requiring detailed data modelling and assumptions. Further detailed work is required to update assumptions including the impact that landfill gas capture and generation has had on reducing this emission source.

Scope 2 Emissions:

7,982 t CO₂-e in 2008/09

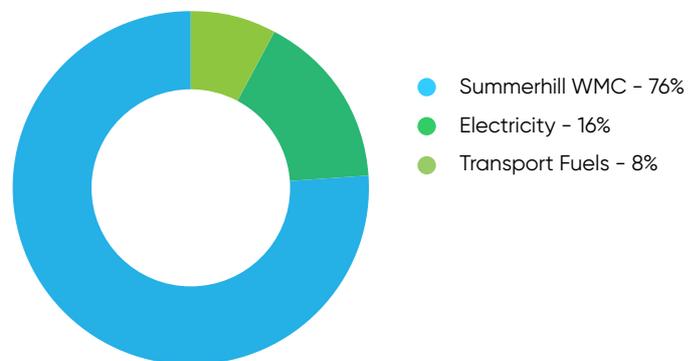
Are indirect emissions associated with the purchase of electricity to operate lighting, buildings and other CN infrastructure.

Scope 3 Emissions:

10,242 t CO₂-e in 2008/09

Are CN activities that generate indirect emissions from sources not owned or operated by CN including full lifecycle emission from the extraction and production of fuels, emissions from transport not owned by CN (such as air travel) and emissions associated with the manufacture of products and services used by CN. Water and wastewater is also included in Scope 3. Although the best available data is used, this is another area where more detailed work is required to measure emissions from construction activities and other Scope 3 sources. Included in this Scope 3 data is the electricity used in Public Street lighting, however this may be counted as a Scope 2 emission in future, given CN's operational control and accelerated program to upgrading lights to LED.

**Chart 1 - City of Newcastle 2008/09
Baseline Scope 1 and 2 Emissions
(Including Summerhill WMC)**



**Chart 2 - City of Newcastle 2008/09
Baseline Scope 1, 2 and 3 Emissions
(excluding Summerhill WMC)**

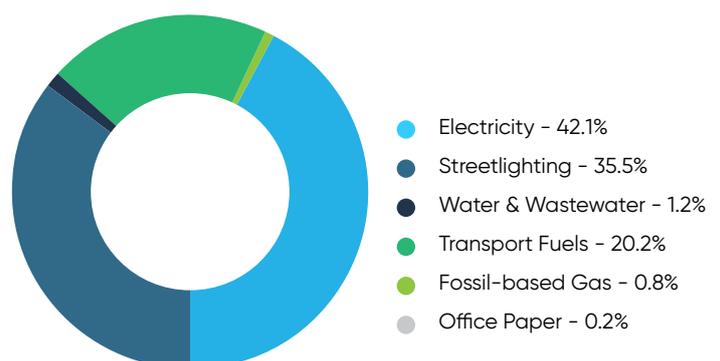


Image:
Rooftop solar PV install at
Newcastle Regional Museum



A Decade of Progress

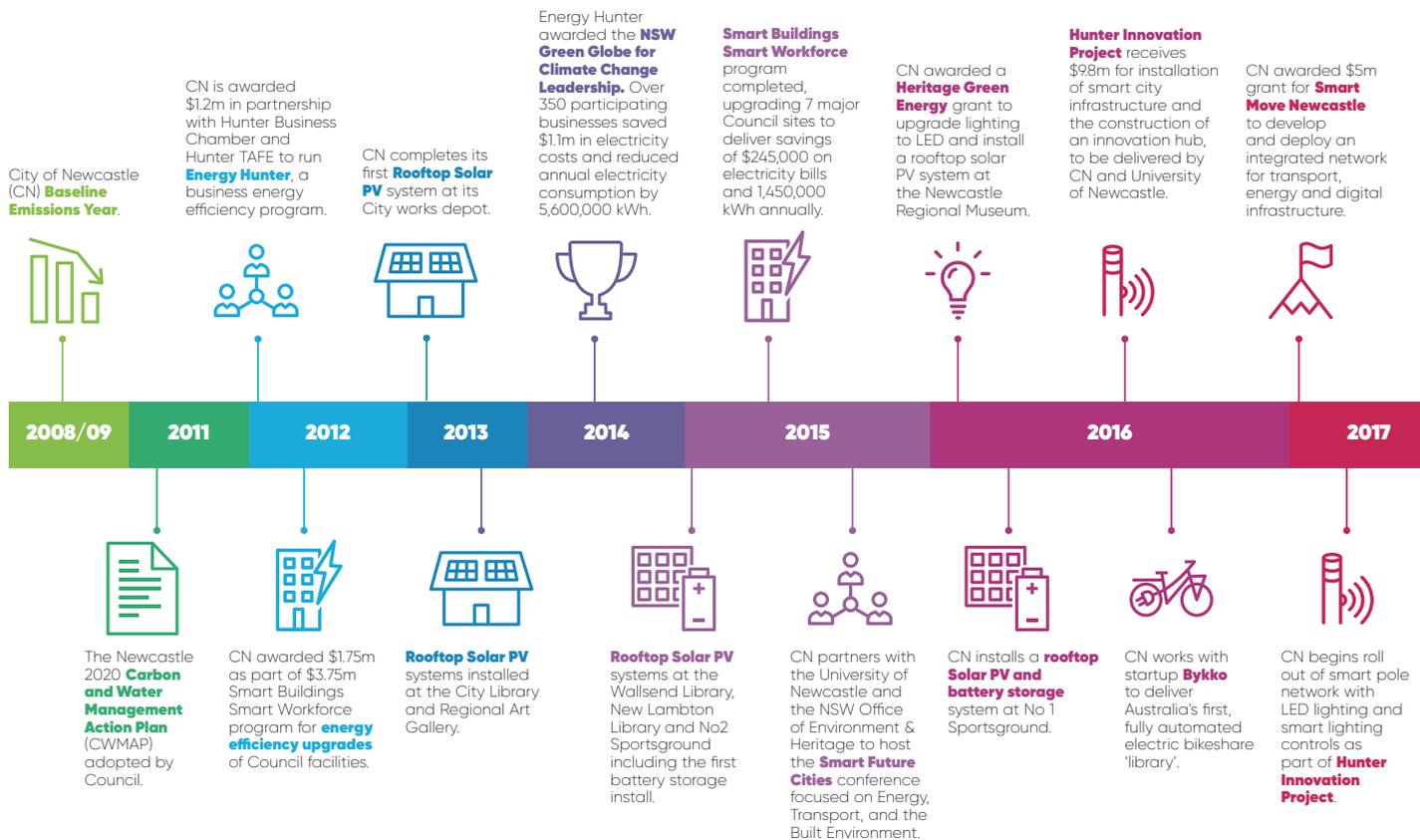
With the adoption of the 2020 Carbon and Water Management Action Plan in 2011, City of Newcastle (CN) has been actively working towards reducing its operational emissions, leading by example and sharing knowledge and experience with the community to drive down emissions across the City.

Following successful completion of the Greenhouse Action In Newcastle (GAIN) 2001-08 Plan, that saw a 13.6% reduction below 1995 levels, CN has continued its strong focus on energy efficiency, delivering the multi-year roll out of the Smart Buildings Smart Workforce program between 2013-2015, where CN upgraded seven of its major sites to deliver an annual reduction in electricity use of 1.45 gigawatt hours (GWh) and saving over \$245,000 a year in electricity costs. The \$3.75m program received \$1.75m in grant funding from the Australian government

and targeted upgrades and improvements to air-conditioning, lighting and thermal performance in buildings.

A Heritage Green Energy Grant from the State Government saw significant energy efficiency upgrades to the Newcastle Regional Museum, with the project winning the Energy Efficiency Award at the National Cities Power Partnership awards.

As one of the largest energy users across CN operations, street lighting was also targeted for accelerated replacement to LED lighting. Replacing five thousand lights on residential roads reduced total electricity consumption by 1.38 GWh annually or nearly ten percent of total energy consumption. A further 4,500 street lights on main roads are also scheduled for replacement.



CN also continued to run highly successful engagement programs, based on its 14-Step ClimateCam Framework. In collaboration with the Hunter Business Chamber and Hunter TAFE, CN delivered the Energy Hunter program to over 350 businesses across the Hunter Region, providing real-time electricity monitoring, energy audits, workshops and assistance in developing energy efficiency projects.

The program, which helped businesses reduce electricity use by 5.6 GWh and save over \$1.1m in electricity savings each year, won the prestigious Climate Change Leadership Award at the NSW Government's Green Globe Awards.

Embracing renewable energy, CN started with the first rooftop Solar PV install at the City Works Depot in 2012/13 and has gone on to complete a further twelve rooftop or carpark Solar PV systems, totalling over 685kW and generating approximately one gigawatt hour of renewable energy each year, used directly onsite by CN buildings and facilities.

Building on this success, a 5 megawatt Solar Farm was constructed on a closed landfill site at Summerhill Waste Management Centre. On 1 January 2020, CN also became the first Council in NSW to move to 100% renewable electricity supply, signing a Power Purchase Agreement to receive renewable energy from Sapphire Wind Farm.

CN wins **Energy Efficiency Award** at the Inaugural Cities Power Partnership national awards.

CN works with **NRMA** to deliver the first electric vehicle fast chargers in their state-wide network.

Construction begins on 5 megawatt **Solar Farm** on a closed landfill site at Summerhill Waste Management Centre. The biggest Council-owned solar farm in NSW.

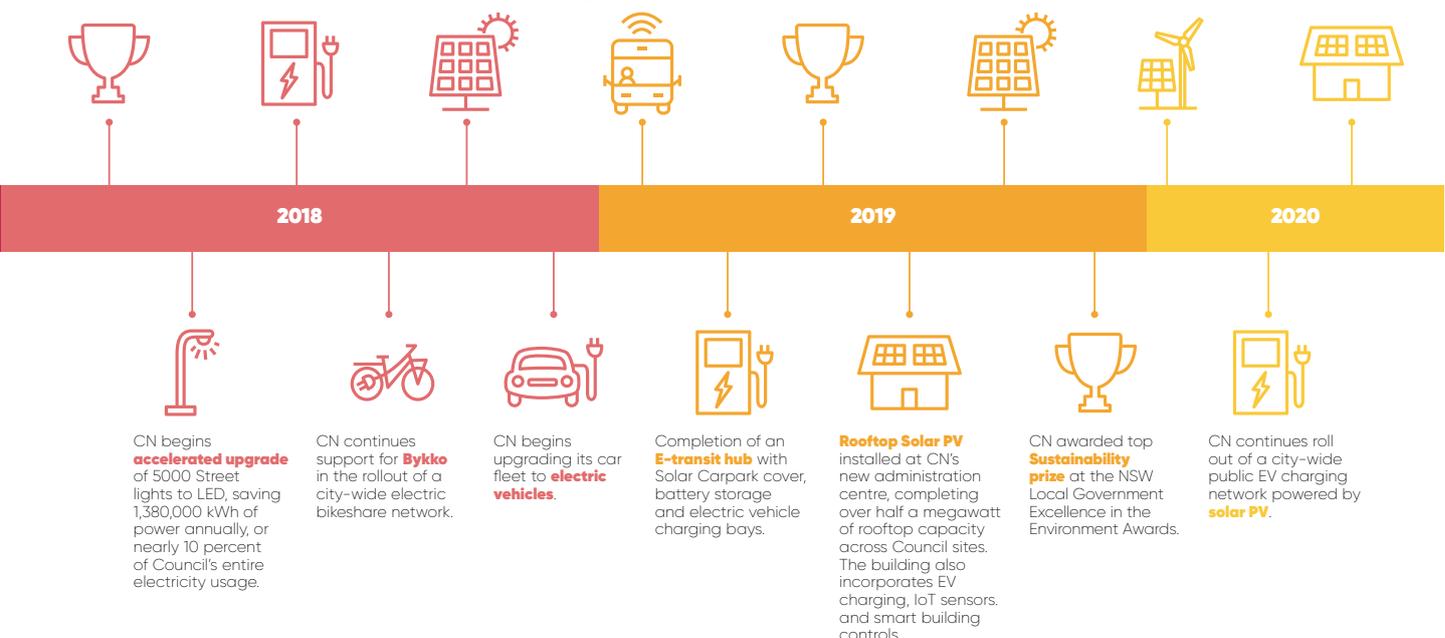
CN works with **Newcastle Transport** to trial a number of future sustainable transport options such as autonomous vehicles and on-demand shuttles.

CN Awarded the **Sustainable Transport Award** at the national Cities Power Partnership Awards.

Completion of the 5 Megawatt **Summerhill Solar Farm**, generating 75 million kilowatt hours of renewable energy each year, enough to power more than half of CN's annual electricity needs.

CN becomes first Council in NSW and one of the first across the country to move to **100% Renewable Electricity** supply for all Council Operations.

Completion of four additional **Rooftop Solar PV** systems across Council facilities including a second large 100kW array at the City Works Depot.



Shifting Focus

At the beginning of delivery for the 2020 Carbon and Water Management Action Plan (CWMAP), City of Newcastle's (CN) emissions profile (excluding Summerhill Waste Management Centre (WMC) showed that electricity use accounted for nearly 80% of total operational emissions. Considerable focus on energy efficiency and renewable energy development, concluding with a 100% Renewable Power Purchase Agreement, has resulted in significant reductions in carbon emissions and removed electricity as CN's main emission source, as the CWMAP reaches completion.

Table 1
Progress against key targets

30% Reduction in CN's electricity usage	20.84%	 Decrease (behind target)
80% of Newcastle's street lights using best practice technology	31%	 Increase (behind target)
30% of CN's electricity generated from low carbon sources	100%	 Increase (ahead of target)
30% reduction in CN's potable water usage	13.9%	 Decrease (behind target)
30% reduction in CN's Carbon footprint	77%*	 Decrease (ahead of target)
20% reduction in CN's fossil-based liquid fuel usage	6.8%	 Decrease (behind target)

*Excluding emissions from SWMC

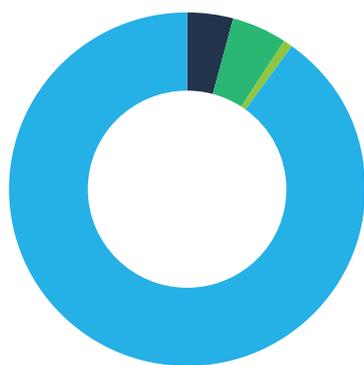
Analysis showed (using best available data) that CN has exceeded its renewable energy target and carbon emission reduction targets while also making good progress against other key goals such as reducing use of electricity, water and fossil-based liquid fuels. Energy efficiency and renewable energy generation will continue as important goals in this Climate Action Plan, both from a cost saving perspective and emission reduction activity, with a focus on upgrading existing legacy street lights, increasing onsite solar PV and battery storage and unlocking further opportunities through smart energy management and demand response capabilities.

In the area of reducing transport emissions, CN has made good early progress through beginning the transition of its passenger fleet to electric vehicles and installing Electric Vehicle charging stations both within CN facilities and for public access use.

The use of fossil-based liquid fuels such as diesel and unleaded petrol in CN cars, trucks, waste fleet, plant and equipment now account for over 90% of CN's remaining operational emissions. This is produced from more than 1.6 million litres of fuel used annually across CN's operations.

Technology and costs have improved rapidly and in many cases electric options are already more cost-effective than traditional internal combustion engine (ICE) alternatives in a total cost of ownership (TCO) assessment. Electric options are available, or coming soon, for most fleet and equipment types. This presents an opportunity to minimise exposure to fuel price spikes and supply vulnerabilities, promote greater self-sufficiency and resilience and reduce carbon emissions. It can also greatly improve air quality and create significant health benefits from reduced exposure to diesel particulates and other traffic pollutants. For these reasons, the electrification of CN's fleet, plant and equipment will be a key focus areas in this Climate Action Plan.

**Chart 3 -
City of Newcastle 2020 Snapshot
Scope 1, 2 and 3 Emissions
(Excluding Summerhill WMC)**



- Transport Fuels - 90%
- Fossil-based Gas and LPG - 4.0%
- Water & Wastewater - 5.0%
- Office Paper - 1.0%

Emissions from the Summerhill Waste Management Centre have been excluded from analysis due to the limited operational control CN has over the placement of waste and the complexity in accurately modelling fugitive emissions. However, in order to achieve net zero emissions, it remains a crucially important area for CN to undertake further detailed assessment, including the positive benefits from landfill gas generation and emission reductions that will accrue from construction of the Organics processing facility. Building circular economies and reducing supply chain emissions also form a key part of this plan and as such, further work is required in understanding CN's Scope 3 emissions.





Image: City of Newcastle Electric Vehicle Charging Hub

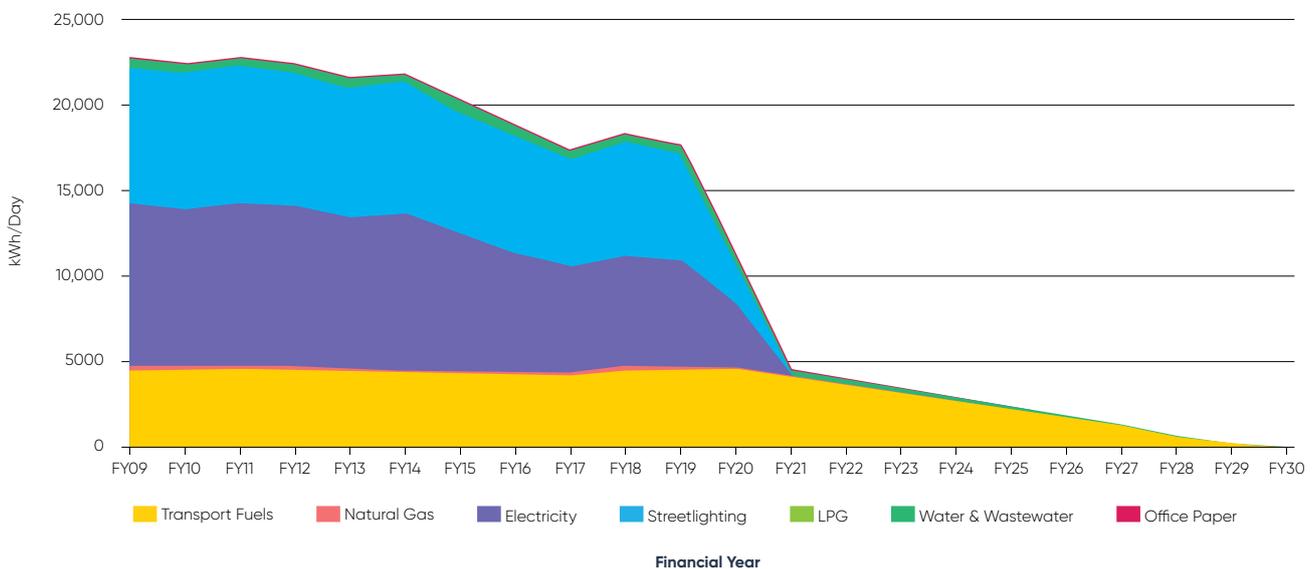
The Pathway to Net Zero

City of Newcastle (CN) operates a large number of buildings, facilities, vehicles, plant and equipment which all contribute to greenhouse gas emissions across its operations. Achieving net zero emissions is both technologically and economically feasible, with much of the required technology and solutions readily available. It will however, take a sustained, strategic approach to ensure that while emissions reduction activities are undertaken, CN uses the best information available to make choices that lead and manage this transition without increasing its footprint in other areas.

Having effectively dealt with emissions from electricity sources, detailed analysis of CN's operational emissions profile was undertaken, combined with

best practice actions from around the world and strong local engagement. This has created a Climate Action Plan with a series of focused, practical actions that can achieve a Net Zero Emissions organisation. While reducing the use of liquid fuels will be the main requirement in reaching Net Zero Emissions, many other opportunities exist through better use and management of resources, advancing options for a circular economy and setting clear expectations with suppliers about the preference for low carbon products and materials. Although CN's carbon footprint is not large compared to the rest of the City, the sooner CN reaches Net Zero Emissions, the bigger the cumulative impact of this achievement and the greater the opportunity to encourage change in the City from a position of leadership.

Pathway to Net Zero Operational Emissions



The above analysis is focused on emissions created from operations undertaken by CN, while excluding landfill emissions from the Summerhill Waste Management Centre (SWMC). The baseline data from 2008/09 estimated emissions from SWMC to be 38,973 t CO₂-e, making it the largest source of CN's emissions. Considerable work is required in updating

these estimates and accounting for changes that have occurred in the last decade, including landfill gas generation and new landfill cells. This process will need to be undertaken in parallel to reducing CN's other emission sources and continuing projects that will further reduce this impact such as construction of the organics processing facility.

Image:

Newcastle Electric Bikeshare Network



Alignment with Newcastle 2030 Community Strategic Plan

High level alignment with the Community Strategic Plan is essential to the long-term implementation of the Climate Action Plan. The Actions of this plan have been designed to clearly integrate with the Community Objectives and Strategies of the CSP across five of the seven Strategic Directions and the UN SDGs. This alignment is essential for delivering on our community's vision of a smart liveable and sustainable global city.



Protected Environment



Liveable Built Environment



Open and Collaborative Leadership



Smart and Innovative



Integrated and Accessible Transport



SUSTAINABLE DEVELOPMENT GOALS

Reducing our Corporate Emissions

The City of Newcastle has long recognised the importance of its role as a City leader and the value of sharing its experiences with others, so that they too, may utilise this knowledge to improve sustainability in their own operations. CN's leadership is illustrated by acting as a first-mover to deploy and demonstrate new and emerging technologies and policies. This leadership draws on our commitment to innovation and using technology to solve environmental issues in a local context.

Setting a goal for Net Zero Emissions, CN has built upon previous achievements, identified a detailed and achievable pathway to reduce our corporate emissions and set targets in line with the urgent action that the science is telling us must be undertaken to achieve rapid decarbonisation.

This section of the plan will focus on emissions as a result of CN operations and will be updated as required, to ensure actions and policy response to climate change remain current and reflect community needs.

*By no later than 2030, City of Newcastle will reach **Net Zero Emissions for its Operations***

To Achieve this goal, this Climate Action Plan is structured around four key themes for reducing emissions across City of Newcastle Operations:



By 2025 City of Newcastle will aim for:



- A **30% reduction in electricity use**, based on FY2019/20 consumption
- **100% of all installed lighting to be LED** or best practice equivalent
- A **50% reduction in liquid fuel use**, based on FY2019/20 consumption
- A **50% reduction in carbon emissions** from operations including Summerhill Waste Management Centre



100% Renewable Energy Supply

Objective:

To utilise 100% renewable energy supply for City of Newcastle Operations

- 1.1** Continue to source 100% renewable electricity through a combination of onsite generation, battery storage and renewable electricity power purchasing agreements (PPAs).
- 1.2** Transition all plant and equipment to electric and battery powered options or other zero-emission alternatives.
- 1.3** Eliminate the use of fossil-based gas across CN operations. Where electric alternatives are unavailable, investigate the use of renewable gas.
- 1.4** Implement alternatives to reduce and remove the use of fossil-based liquid fuels across CN operations.
- 1.5** Investigate and install megawatt scale battery storage options to firm renewable supply and build resilience across CN operations.





Best Practice Energy Water and Waste Efficiency

Objective:

Ensure Best Practice use of resources across all CN facilities and operations

- 2.1** Develop and implement a demand response program and increase battery storage across CN sites to reduce peak electricity use and provide grid support.
- 2.2** Ensure all installed building, facility, public and street lighting is LED or best practice equivalent.
- 2.3** Implement ongoing energy efficiency improvements across CN assets and aim for negative emission buildings.
- 2.4** Undertake an audit of recycled materials collected and processed at Summerhill Waste Management Centre and identify opportunities for their utilisation within CN operations.
- 2.5** Establish organics processing, materials recovery and other processing facilities at Summerhill Waste Management Centre to provide best practice waste diversion and recovery.
- 2.6** Collect and analyse data on landfill emissions and CN operational waste going to landfill and implement strategies to reduce and divert waste going to landfill.
- 2.7** Identify and implement opportunities for utilising water efficient technologies and recycled water.
- 2.8** Investigate opportunities for trialling and demonstrating vehicle-to-grid (V2G) and other emerging technologies.



Sustainable Supply Chain

Objective:

Identify and implement actions to reduce emissions in products and procedures across CN Operations.

- 3.1** Set targets and policies for the use of sustainable and recycled materials in procurement, civil and construction works.
- 3.2** Identify and implement opportunities to utilise green concrete and other low emissions materials in CN civil and construction works.
- 3.3** Utilise recycled glass, aggregate and other recovered materials in CN operations.
- 3.4** Identify and implement opportunities to utilise recycled plastics in street furniture, posts, playgrounds and other CN infrastructure.
- 3.5** Remove all single use plastics from operational activities.
- 3.6** Work with local businesses to trial, develop and implement low emissions materials and technologies.
- 3.7** Prioritise low emissions building materials in design and construction of CN assets.
- 3.8** Improve data capture on supply chain emissions, measure embodied energy in materials and develop metrics to improve circularity in CN's supply chain.





Zero Emissions Transport

Objective:

Supporting the transition to clean, efficient, emissions-free transport across City of Newcastle

- 4.1** Support cycling through provision of adequate cycle lanes, bike parking and end-of-ride facilities.
- 4.2** Provide publicly accessible electric vehicle charging infrastructure at key locations throughout the city, powered by onsite renewables where possible.
- 4.3** Procure electric vehicles for all passenger fleet replacements where options are available and identify opportunities to accelerate removal of fossil-fuel based vehicles from operations.
- 4.4** Transition all CN light trucks to electric options where available and monitor and trial improvements.
- 4.5** Transition all CN heavy trucks including waste collection vehicles to electric options where available and monitor and trial improvements in technology.
- 4.6** Encourage sustainable transport options for all staff travel and offset emissions where options are not available.



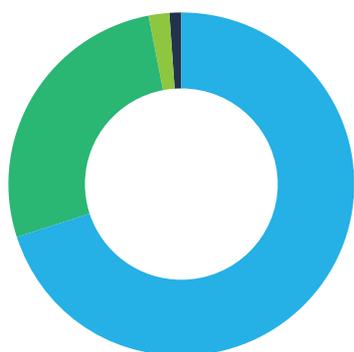


Community Emission Reduction

The second part of this Climate Action Plan is focused on how Newcastle as a whole, can track towards Net Zero Emissions in a practical way. It is also focused on taking advantage of the considerable economic opportunities that arise from a clean energy and low-emissions industry landscape. It is imperative that the City accelerates this low carbon journey as soon as possible, given the scale of emissions associated with all sectors of the community. The City can address areas such as electricity and transport use where decarbonisation is already achievable, while beginning the groundwork and supporting emerging areas such as renewable hydrogen and zero-emission industries. This will pave the way for a resilient and thriving Net Zero Emission City.

Although CN does not itself account for a large portion of Newcastle's emissions, it has an important role to play in demonstrating how to operate more sustainably, share knowledge, enable action and encourage innovation and new industries. CN can also work collaboratively with other levels of government, business, industry and advocacy groups to ensure a managed transition that supports the community along the way and provides new and meaningful opportunities for work.

Chart 5 - Newcastle LGA 2008 Scope 1 and 2 Carbon Emissions by sector
(Source BZE and Ironbark)
(Excluding industrial fossil-based gas use)



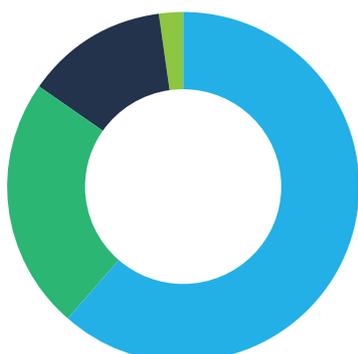
● Business - 70.0% ● Residential - 27.0%
● Council - 1.0% ● Education - 2.0%

Analysis undertaken for the baseline year of 2008 estimated Newcastle Local Government Area emissions at approximately 2.4 million t CO₂-e annually. This carbon footprint showed that the vast majority of emissions in Newcastle come from the business sector, (even when excluding industrial fossil-based gas use, which was estimated to account for an additional 1.44 million tonnes of CO₂-e). Business and Industry is therefore a key focus area for achieving substantial emission reductions.

It is important though, that there is a focus on enabling actions in every sector of the community, particularly as some areas are easier to address than others.

As demonstrated with CN's own operations, the cumulative and compounding impact of reducing all emission areas as early as possible, will help to slow the depletion of the City's remaining carbon budget and ensure the goals of the Paris Climate Agreement are achieved.

Chart 6 - Newcastle LGA 2018/19 Emissions Snapshot
(Source BZE and Ironbark)



● Electricity - 61% ● Transport - 23%
● Gas - 13% ● Waste - 2%

Accurately assessing the emissions profile of a City is a difficult task and relies on the best data sources available at the time, some of which may not be accessible at all. More recent analysis (Chart 6) has shown a carbon footprint broadly in line with the work undertaken for the previous 2020 Carbon and Water Management Action Plan.

As expected, the main differences are a decrease in the percentage of emissions from electricity, due to grid decarbonisation, energy efficiency and the uptake of rooftop solar, while there has been an increase in emissions from transport. These remain two critical areas in which big emission reduction opportunities already exist.

Community Emission Reduction

Electricity reduction through energy efficiency initiatives and switching to renewable electricity for stationary energy use in homes, businesses and industry can reduce emissions from within the Newcastle LGA by nearly two-thirds.

The technology to achieve this is already well-proven and commercially available and there are immediate and cost-effective opportunities across all sectors.

Data from the network operator Ausgrid, shows a steady decline in average electricity usage across residential, Small and Medium Enterprises (SME) businesses and large businesses between 2008 to 2013/14, before an increase in the following years. During this period there was also a 7% increase in residential customers. At the same time, the increase in solar customers and amount of installed capacity has increased dramatically and it is important to accelerate this uptake even further, to achieve significant emission reduction and continue to support a local clean tech market.

A study of emission reduction pathways to 2040 shows that through grid decarbonisation, increased use of onsite renewable energy and transitioning transport to electric options, a Net Zero Emissions Newcastle is within reach.

Chart 7 - Average Electricity Usage Newcastle Residential, SME and Large Businesses (Source Ausgrid)

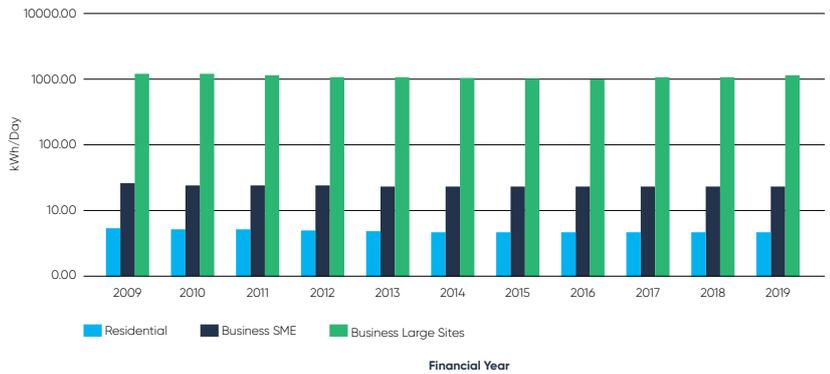
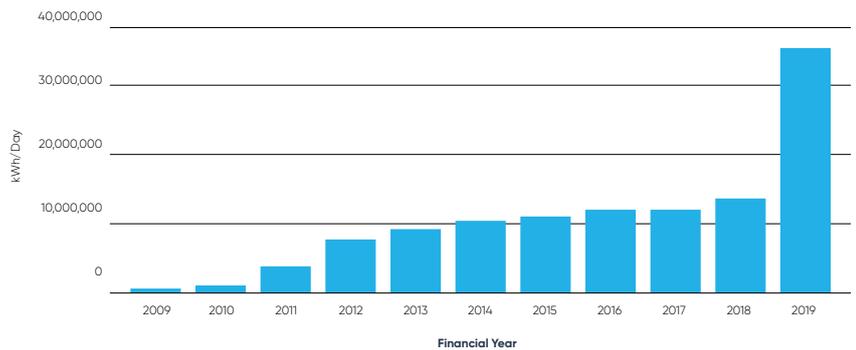


Chart 8 - Newcastle Annual Solar Exported to Grid (Source Ausgrid)



Getting to a Net Zero Newcastle by 2040

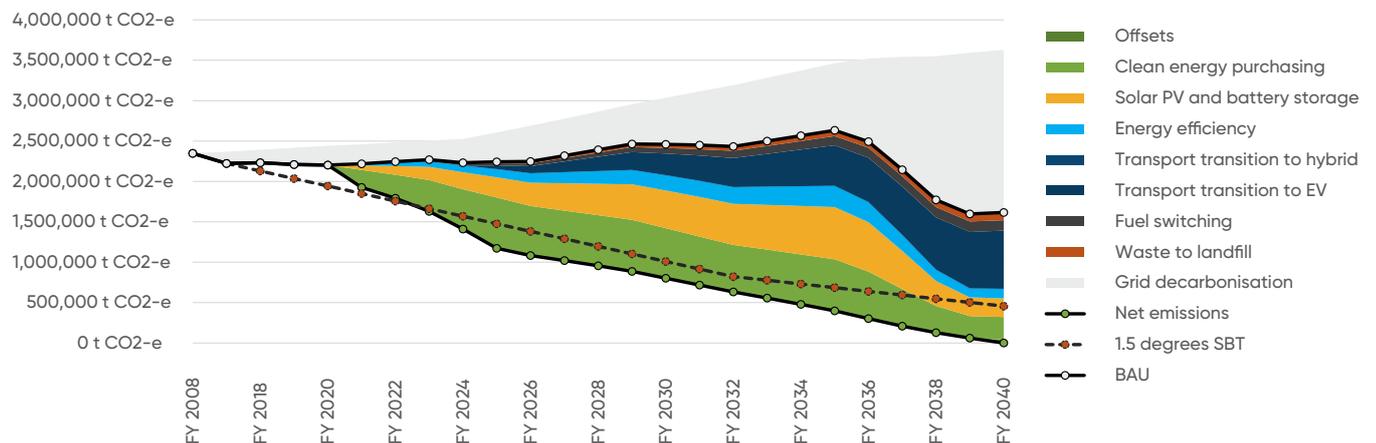


Chart 9 - Decarbonisation Pathway (Source 100% Renewables)

Towards a Net Zero Emissions City

Objective:

To create a resilient city that reduces its share of emissions to ensure a cleaner and more sustainable future

City Aspirational Goals for 2025:

- 30% reduction in city-wide emissions
- 30% reduction in average daily electricity consumption
- 10,000 registered electric vehicles
- 100MW of new renewable generation capacity
- 500GWh of new Renewable Power Purchase Agreements
- Secure commitment from 20 of the Largest Newcastle Businesses to target Net Zero Emissions no later than 2030
- 1 MW of new community renewable energy projects

And targeting Net Zero Emissions from Electricity by 2030

Low Emissions Development

5.1 Investigate a set of low-carbon and low-water building performance enhancements for inclusion in the City's Development Control Plan (DCP) for all new buildings and major renovations, including encouraging the use of passive design features, green roofs, solar panels, storage and EV charging.

5.2 Lobby the NSW Government for improvements to the Building Sustainability Index (BASIX) minimum performance requirements, through a combined approach from active Local Governments.

5.3 Work with the NSW State Government to identify neighbourhoods and catalyst areas suitable for establishing a low carbon precinct as a demonstration project.

5.5 Support residents, business and industry in transitioning to low emissions technologies, including development of solar gardens, virtual microgrids, community renewable energy and battery storage initiatives.

5.6 Investigate and encourage the opportunity for Newcastle residents and businesses to buy and sell locally and regionally produced renewable energy and carbon offsets.

Building a Low Carbon Circular Economy

5.7 Promote and encourage local resilience and a circular economy through sustainable procurement practices, and the local sourcing, production and consumption of materials.

5.8 Identify options to encourage and support waste avoidance opportunities for Newcastle residents, business and industry, including a phased-in ban on single use plastics.

Encouraging Clean Technology

5.4 Support and share knowledge with residents, business and industry to encourage energy efficiency, the uptake of renewable energy and target 100% renewable electricity supply.

5.9 Identify and measure the carbon sequestration potential from street and park trees, bushland, wetland and other natural assets and promote the opportunities and multiple climate and resilience benefits of urban blue-green grids.





Towards a Net Zero Emissions City

Supporting an Electric Transport Future

- 5.10** Work with the NSW State Government, electricity network operator (Ausgrid), technology providers, neighbouring Councils and electricity retailers to provide suitable charging solutions for electric vehicle owners (both off street and on street parking).
- 5.11** Work with the NSW State Government, councils and other stakeholders to encourage and incentivise the uptake of electric vehicles and zero-emission transport.
- 5.12** Actively work with Newcastle Transport, Fleet and Freight operators to reduce transport emissions (including advocating for electric buses, ferries, taxis and delivery trucks in the City).

Advancing New Zero Emission Industries

- 5.13** Advocate for Zero-emission Industries in Newcastle and the Hunter, the establishment of a low emissions technology development and commercialisation zone and support for a just transition for carbon workers.
- 5.14** Advocate for the creation of renewable hydrogen and ammonia export hubs, a regional bioenergy hub and green metal and mineral processing in Newcastle and the Hunter.
- 5.15** Actively promote Newcastle as a clean tech innovation hub and an international test laboratory for best practice carbon and water reduction technologies and services for the national and international markets.





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Tables and Charts

Chart 1 to 5 - Newcastle 2020 Carbon and Water Management Action Plan

Chart 6 - Snapshot Climate - Prepared by Beyond Zero Emissions and Ironbark Sustainability
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Chart 7 to 8 - Ausgrid - Data to Share, Average Electricity Use
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Chart 9 - 100% Renewables - Decarbonisation Pathway for Newcastle

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newcastle.nsw.gov.au

Australian Local Government

Climate Review

2021





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About us



Ironbark Sustainability works with councils and their communities to reduce greenhouse emissions, tackle climate change and implement sustainability projects and programs. There are 537 local governments in Australia, and since beginning their journey in 2004, Ironbark have worked with 260 of them, covering 86% of the population, in every state and territory.



ICLEI – Local Governments for Sustainability is a global network working with more than 2,500 local and regional governments committed to sustainable urban development. Active in 125+ countries, they influence sustainability policy and drive local action for low emission, nature-based, equitable, resilient and circular development. In Australia, ICLEI Oceania is also the focal point for the Global Covenant of Mayors for Climate and Energy (GCoM).

Recognition of traditional custodians

We recognise that Aboriginal people's sovereignty over their land was never ceded and the impact of this ongoing dispossession continues to this day. We stand in solidarity with First Nations people in calling for the establishment of a First Nations Voice in the Constitution, as described in the Uluru Statement from the Heart. We further support calls for the establishment of a Makarrata Commission on agreement-making and truth-telling between Aboriginal and Torres Strait Islander peoples and governments. Ironbark Sustainability and ICLEI maintain offices on the traditional lands of the Wurundjeri people of the Kulin Nation, the Darug people and the Muwinina people. We pay our respects to all First Nations Elders past, present and those emerging.

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Introduction

In 2021, Ironbark Sustainability and ICLEI Oceania invited Australian council and community stakeholders to take part in a wide-ranging survey to better understand local climate change targets, actions, strategies and policies.

The Australian Local Government Climate Review 2021 captures the results of that survey and provides a comprehensive assessment of council and community climate actions along with the barriers and opportunities ahead.

Altogether, 100 Australian councils have now declared a climate emergency, joining 1,800 others around the world. Thirty-one Australian councils are signatories of the Global Covenant of Mayors, joining a global network of 10,500 local governments working to reduce emissions at the local level. There are also 147 Cities Power Partnership (CPP) council members and 130 Zero Carbon Communities. Collectively these groups demonstrate the readiness to integrate climate solutions into local decision making.

Local councils are well placed to drive and influence action on climate change. This includes through the services they deliver, their regulatory and strategic functions, and their roles as community leaders, major

employers and large-scale procurers. Local authorities are directly accountable to their constituents for their decisions and can often be better placed to take swift action compared to national officials.

Community-level organisations also offer unique attributes not found in organisations operating at state, national and international levels: councils tend to work collaboratively, have the ability to be more agile than other levels of government and they directly engage with communities and their needs; meanwhile local communities are often champions of change, ideas and innovation, understanding local context and the impacts of decisions on local businesses, environment and social settings. Their collaboration is central to the design of effective and implementable solutions.

For the past two decades, thousands of Australian local councils and communities have been leaders in climate ambition and action. Councils have implemented energy



efficiency and renewable energy projects on their buildings, changed street lights to LEDs, switched to electric vehicles and become carbon neutral. They have also worked with residents and local businesses on projects that have resulted in millions of tonnes of greenhouse gas mitigation. And communities throughout the nation have mobilised to lead the challenge at the grassroots level.

As we move into the critical decade of the climate crisis, Australian councils and communities have only increased their level of climate ambition, scope and delivery of climate action. There is broader recognition that the climate challenge will not be solved through marginal energy efficiency improvements or piecemeal actions. It requires transformative change both individually and collectively to deliver zero emissions energy and sustainable transport, build adaptive and resilient communities, and restore the natural environment. A better understanding of the challenges and opportunities and appetite for change has brought a more sophisticated approach to program delivery

and ambition, perhaps best demonstrated by the proliferation of climate emergency declarations, community-wide net-zero targets and [Zero Carbon Communities](#).

In times of crisis, residents of local communities inevitably become the first responders and must innovate and adapt to changing climates. There was no greater illustration of this than the bushfires and floods that ravaged the east coast of Australia during these past two years. This report demonstrates the local understanding of the scale of the response required, the ambition throughout the country and the scope of climate action already undertaken by Australian councils and communities. There is an urgency to collaborate with all levels of government, to accelerate local and regional action at the scale and pace needed to keep global temperature rise within a 1.5°C increase of pre-industrial temperatures. Given the impact they face from the climate crisis, councils and communities must continue to be empowered to play a key role in solving these challenges.

Climate Review 2021



Key findings

National overview



Australia's councils and communities are **leading action on climate change**



Nationally, 50% of Australian councils provide **public information on climate change**



90+% respondents were unsatisfied with the Federal Government's **approach to meet global targets**

Key findings



Community

- There are more than **130 Zero Carbon Communities** across the nation
- **68%** of community respondents engaged with climate change solutions or the transition to zero emissions
- **11%** of individual respondents and **21%** of community respondents identified as culturally or linguistically diverse
- **26%** of community respondents are setting their own emissions targets for the whole community
- **93%** of the community respondents are collaborating with their local council
- **26%** of community respondents had a local zero emissions project underway
- Project sectors of most interest were **transport, community energy, land regeneration** and **building retrofits**
- Most communities expressed a need for **external support** to help develop actions, strategies and plans regarding climate/zero emissions transition strategy or action plan
- Over half of community respondents had a **climate or zero emissions transition strategy or action plan**
- Community groups (**90%**) and individuals (**60%**) are very well connected to decision makers in their region.



Council – Corporate emissions

- **84 councils** were represented in the 2021 survey
- **86%** of the responding councils had a corporate emissions baseline inventory
- **73%** of the responding councils had or intended to have a corporate emissions target
- The majority of the responding councils are **confident in meeting corporate emission targets**
- From the responding councils, **83%** either had or intended to put corporate emission reduction strategies, plans and/or policies in place
- A lack of funding and resourcing are the most significant barriers to reducing corporate emissions, with the median budget to reduce emissions being **\$200,000**
- **A lack of funding and resourcing** are the most significant barriers to reducing corporate emissions
- Common measures to reduce corporate emissions included **energy audits of large facilities, installing solar PV** and **upgrading lighting in council facilities**.



Council – Community emissions

- **29%** of the responding councils have a community emissions profile, noting that community emissions information is now available free of charge through [Snapshot](#)
- **40%** of the responding councils had or intended to have a community emissions target, while another **40%** were investigating introducing a target
- The most common barrier in setting community emissions targets was **the lack of direct control on the part of councils in being able to meet the target**
- Only **36%** of councils with a community emissions target were somewhat confident in meeting it, while **14%** were not at all confident
- The median budget for actions reducing community emissions in 2019-20 was **\$20,000**, not including staff time
- Strong community support can be harnessed to reduce council and community emissions at a fraction of the cost of councils delivering directly
- Community actions were focused on **education, events** or **renewable energy**.



Climate impacts, risks and adaptation

- **96%** of community respondents felt climate change had impacted their local community
- Of community respondents, **29%** had a climate change risk assessment plan or strategy and **48%** were working on climate adaptation initiatives
- Key concerns for both individuals and communities included environment, local employment, extreme weather/ climate, recovery from COVID, health and education
- The majority of responding councils (**83%**) reported that climate change had already impacted their local community or council operations
- Of responding councils, **63%** had climate change risk assessments in place and **74%** had implemented climate change adaptation initiatives
- The majority of councils felt that **local government had a very important role to play in meeting global climate targets**, but most respondents felt that the local government contribution to the climate challenge was inadequately recognised
- Almost a third of councils reported having or intending to have a **fossil fuel divestment commitment**.



Overview

Local councils are well placed to drive and influence action on climate change through the services they deliver, their regulatory and strategic functions, and their roles as community leaders, major employers, large-scale procurers and landlords. Local authorities are directly accountable to their constituents for their decisions and are better placed to take swift action than national officials.

This review provides an update to a series of preceding reports on local government and community responses to climate change. In 2016, 152 Australian councils were reviewed and it was found that 82% had emissions targets for their own operations and 18% had community emissions targets. In 2017, the authors of this review collaborated to create the most comprehensive local government and climate change survey in Australian history. This information was published in the 2018 Australian Local Government Climate Review. This 2021 Review is a further collaborative update, providing a solid evidence-base and comprehensive analysis of climate change actions, barriers and opportunities facing councils and communities.

The 2018 Review made its way around the world. It was launched at the international ICLEI Resilient Cities Conference in Bonn, Germany, where Australian council, state and community climate action was highlighted on the world stage. The Review has been used to inform policies, state Parliamentary Inquiries and aid decision makers throughout Australia, as well as leading to the development of tools like [Snapshot Climate](#).

This 2021 Review showcases the progress made, as well as opportunities and recommendations for local communities, councils and local government associations, and state and federal governments to build upon.

Co-Benefits of climate action

Action on climate change can deliver many local co-benefits, including lower energy bills, more comfortable homes, improved health, new local jobs and industries, energy security and better air quality. Increasing resilience and community connection can also protect individuals, homes, businesses, infrastructure and services from climate change risks and extreme events. Some of the co-benefits of taking action on climate change are outlined below.

Health

- Improved local air quality from reduced burning of fossil fuels
- Increased physical activity from active transport
- Increased comfort from energy efficient homes
- Reduced mental health complications from secure and comfortable housing, local employment and reduced concern over current and future climate impacts

Jobs

- New local jobs in the clean energy sector
- Promoting investment through renewable energy
- New skills and industries that can be exported throughout the world
- Savings on energy and transportation costs through more efficient technology
- Future-proofing businesses and industries from climate and financial risks

The [Beyond Zero Emissions Million Jobs Plan](#) outlines the 1.8 million jobs Australian communities can take up to tackle climate change and improve local economic outcomes. For example, the City of Greater Geelong could have up to 20,000 new jobs in renewable energy, construction, retrofits and land use projects.

Resilience

- Protect energy supply and security through distributed generation
- Minimise impacts from heatwaves and extreme weather events
- Increase biodiversity and access to green space
- Increase community connections and social cohesion
- Protect infrastructure from climate impacts
- Protect vulnerable people in the community

Equity

- Reduce energy poverty and disadvantage
- Increase community participation and diverse representation
- Improve housing security through more efficient housing
- Create new and secure employment opportunities



Review methodology

The review was conducted in two parts – a desktop review of all local government websites to assess climate information followed by a voluntary online survey for local councils and communities.

The website review was conducted in late 2020 to assess all 537 Australian council websites for reference to climate related activities and targets.

The online survey was developed by Ironbark Sustainability and reviewed by ICLEI Oceania, the Cities Power Partnership, Climate Emergency Australia, Climateworks and a number of local government associations, councils and community groups.

The survey was promoted through various newsletters, organisations and industry contacts and responses were collected between 10 March-1 April 2021.

The survey gathered data on councils and communities, including:

- demographics
- baseline emissions
- climate targets
- strategies and plans to reduce emissions
- actions and results
- monitoring, evaluation and broader engagement
- opportunities and barriers to reducing corporate and community emissions.

The survey questions are available for reference in the appendix of the report.

Glossary of terms

ATSI – Aboriginal and/or Torres Strait Islander

Corporate emissions – also known as council, internal or operational emissions

Community emissions – also known as municipal, community-wide or city-wide emissions

CoP – Conference of the Parties

Emissions – all greenhouse gas emissions

GPC – Global Protocol for Community-Scale Greenhouse Gas Emissions

GCoM – Global Covenant of Mayors for Climate and Energy

Paris Agreement – The Paris Agreement aims to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C

UNFCCC – The United Nations Framework Convention on Climate Change

SDT – Science derived target

Emissions inventory – a stocktake of council's operational (or corporate) greenhouse gas emissions, by source, discharged into the atmosphere during a year based on data sets such as electricity, gas and fleet data

Emissions profile – an estimate of community-wide (or municipal wide) greenhouse gas emissions, by source, discharged into the atmosphere during a year based on a variety of real activity data and modelled data sets

Zero emissions: this refers to a process where no emissions are released at all.

Net-zero carbon emissions – net-zero carbon emissions means that an activity releases net-zero carbon dioxide into the atmosphere.

Net-zero GHG emissions can be confused with net-zero carbon emissions, but when accurately used, net-zero GHG emissions means all greenhouse gas emissions decline to zero in accounting terms, as opposed to just carbon dioxide. This is the same concept as net-zero carbon emissions but covers CO₂ and all non-CO₂ gases.

Carbon neutral – any carbon dioxide released into the atmosphere from an organisation (or council's) activities is balanced by an equivalent amount being removed.

Climate positive (or carbon negative) – an activity or organisation goes beyond achieving net-zero carbon emissions and creates an environmental benefit by removing additional carbon dioxide from the atmosphere.

Climate neutral – means reducing all greenhouse gases to the point of zero while eliminating all other negative environmental impacts that a council or organisation may cause.

GreenPower – a government accredited renewable energy product offered by most electricity retailers to households and businesses in Australia.

Results and analysis

Desktop review

A desktop review of council websites in each state and territory was conducted by volunteers to assess climate change engagement and actions.

All of the 537 Australian local government websites were reviewed to assess public information on climate change. Further results are presented in the state and federal government chapter.

Table 1: Australian local government desktop review – climate change.

Question: Does the council website present...	Total 2017	% 2017	Total 2020	% 2020	% Pop*
Information addressing climate change issues?	269	50%	267	50%	77%
Current targets to reduce greenhouse gas (GHG) emissions for council operations?	102	19%	128	24%	54%
Current targets to reduce community-wide greenhouse gas (GHG) emissions?	36	7%	56	11%	23%
Current strategies, actions and plans to reduce council greenhouse gas (GHG) emissions?	226	42%	179	33%	63%
Current strategies, actions and plans to reduce community-wide greenhouse gas (GHG) emissions?	N/A	N/A	133	25%	40%
Actions focusing on reducing or saving energy?	260	48%	216	40%	74%

*This is the percentage of Australia's population that lives in an LGA where the website desktop review resulted in the answer "yes" to the given question in 2021.

There was no change in the proportion of councils providing information on climate change between 2017 and 2020. There was a slight increase in the proportion of councils with targets for both council operations (from 19% to 24 %) and community-wide emissions (from 7% to

11%) on their websites. The proportion of councils with published strategies, actions and plans to reduce council emissions dropped from 42% to 33%, while the proportion giving advice on reducing or saving energy decreased by 8%.



Survey data

The survey process gathered data relevant for governments and communities looking to reduce council and community emissions. Low rates of response were received from some states and territories, which may be relevant when assessing this information.

Council and community response

The online survey resulted in 272 responses. A total of 84 councils were represented in the responses, with 94 council representatives responding on behalf of these councils. There were also 145 individual and 33 community group respondents.

More than half of the respondents to the council section of the survey identified as council officers while just under a third identified as team leaders and senior management. Almost half of the respondents had been working with their council for more than five years, while most of the remaining respondents had been at council between 1-5 years.



Community

Overview

There are thousands of community groups, clubs, businesses, investors and individuals who are acting to reduce emissions at the local level in Australia. These local champions are often leading the way in the race to net-zero emissions. Learning from and supporting these champions is a key strategy to deliver effective zero emissions research, policy and projects across the nation, and is critical to councils meeting their community-wide targets.

'Bottom-up' approaches offer local governments the opportunity to harness the energy of successful community-led projects. Some of these projects will be directly tackling the climate emergency – others may be targeting related areas of concern such as making streets safer and cleaner. Initiatives also target the local cultural sector, using art, music or drama to change the conversation around climate action. Successful community initiatives build trust, deliver wider benefits and increase the capacity of stretched local council teams. By demonstrating co-benefits in line with community aspirations – whether it be safer places for families to

walk and play, cleaner air or warmer homes – councils are able to reduce resistance to new environmental policies, which will help meet ambitious climate targets.

State governments looking to set and achieve community-wide emissions targets need to collaborate and co-design strategies and actions with communities in order for them to be achieved. [130 Zero Carbon Communities](#) have created a network of informed, skilled and engaged communities that will lead to faster and better decision making for all concerned, and plans with a significantly increased chance of successful implementation.

Results

The survey included responses from 145 individuals, most connected to a local community group (66%) and 33 responding on behalf of a specific community group. 63% stated their local community is engaged with climate change solutions or the transition to zero emissions. Almost all communities (89%) and individuals (73%) identified local groups or champions supporting climate action in the community.

Demographics

11% of individual respondents and 21% of community respondents identified as culturally or linguistically diverse. None identified as Aboriginal and/or Torres Strait Islander (although 10% of community groups said some of their members identified as Aboriginal and/or Torres Strait Islander).

Targets

63% of communities said their council has a target to reduce emissions for council operations, while 37% had a target to reduce emissions for the whole community, with 27% having a community-wide action plan. These targets were variable in timeframe, complexity and sectors included, such as 30% renewable energy by 2020, net-zero by 2040, or 70% below 2017 levels by 2030.

“The council corporate target is net zero by 2045, but they will achieve it much sooner by contracting renewable energy. However Council operations are just 2% of community emissions – so it’s setting a good example but on its own it is tokenism for what the community has to achieve.”

Some community respondents (27%) were also setting their own targets to reduce emissions for the whole community but it

was widely recognised that these can not be achieved by communities on their own.

“Our target is 25% of households have rooftop solar by 2025. We met the target of 20% of households by 2020. Community can’t achieve significant reductions in greenhouse gas emissions without support from our local council, and more support from our State Government and Federal Government.”

Communities were often working to support targets within the next ten years (ie. net-zero by 2030) as they were aware that accountability drops off when targets fall outside of this timeframe.

Council engagement

93% of the community respondents were collaborating with their local council on climate change issues, including via:

- development of climate change policies
- working with sustainability officers
- sourcing funding
- participating in advisory panels, working groups and workshops
- leading discussions with Mayors and Councillors
- developing frameworks for climate action
- advocacy, engagement with energy suppliers, business

Community groups were also actively engaged in participating in local policy including:

- developing government submissions to budgets and infrastructure and emissions reduction plans
- consultation of transport design
- grants plans

- information for climate adaptation strategies
- regular council public engagement.

Projects

23% of community respondents had a local zero emissions project underway. These included installation of domestic and commercial solar and battery systems, virtual power plants, regional energy plans, land regeneration, building retrofits and efficiency programs, community batteries, electric vehicle infrastructure, bio-sequestration, advocacy for health sector emissions, power purchase agreements, regenerative agriculture, local solar farms, microgrids, pumped hydro, circular economy initiatives and active transport.

Individuals involved in projects tended to focus on education and community engagement, divesting green waste from landfill, repair cafes, verge and community gardens, supporting local sustainability plans, tree planting, installations of solar panels, fossil fuel campaigns, landcare and local clean ups.

Sectors of most interest were transport, community energy, land regeneration and building retrofits (Figure 1).

“ We are working to identify realistic, net-zero emissions, environment, industry and employment opportunities for our region. Our project will identify economic and conservation activities that will enable a measured and supported transition to a net-zero emissions economy. We are also identifying the means to deliver these reductions and also any roadblocks currently in the way.”

43% of community respondents had been successful in obtaining funding for their activities – mostly through grants, local or state government or community fundraising. Fundraising capabilities were dependent on volunteers.

There was strong interest in investing in local renewable energy projects with 58% considering it an option. There was also widespread support for an agency to support local renewable projects (88%).

“ We are well established, just resource poor – and currently we are resourced through volunteer labour plus revenue from projects. An agency with funds and proven community facing resources would make a substantial impact across northwest NSW.”

Initiatives such as those from the ACT government, the Sustainability Victoria Community Power Hub program and the

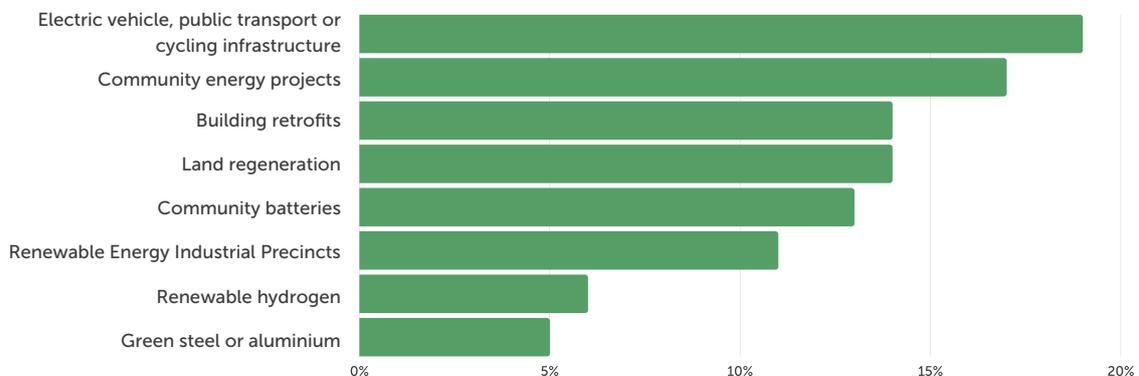


Figure 1: Community group responses to "Are any of the following projects of interest to you or your community group?"

proposed Federal Local Power Plan can support delivery of projects in collaboration with the local community.

Actions, strategies and plans

Most community respondents were involved in climate actions, strategies and plans. These ranged from community and political engagement and education, development of community and council strategic plans, home energy efficiency/ solar bulk buys, to development of solar and wind farms.

Communities were actively involved in a range of actions including, community engagement, council collaboration, projects, transition strategy or action plans, storytelling and investment. Other actions included business development, advocacy and media.

34% of individuals could identify a climate/ zero emissions transitions strategy or action plan for their community. In general, it was recognised there was a need for external support to help develop actions, strategies and plans. Suggested support included: council collaboration, convincing conservative members of the community leadership, access to government

resources and policies for business opportunities, data describing social and economic benefits, NABERS ratings, training in community organising, meeting space and help running local events and workshops (Figure 2).

Just over half (53%) of community respondents said that their council had a climate action strategy or plan, some developed with the community groups. These varied in their approach and effectiveness. Some were very well integrated with council with official community consultation, concrete targets, timelines and actions. Others were aspirational with little commitment and others were “slow to get off the ground without much community engagement”.

Community groups identified needing the following support to develop local strategies and actions:

- access to better data
- support and advice on dealing with politicians and Councillors
- liaising with other groups to work together and share ideas
- prevent expansion of fossil fuel use
- demonstration projects
- impact of actions of community emissions.

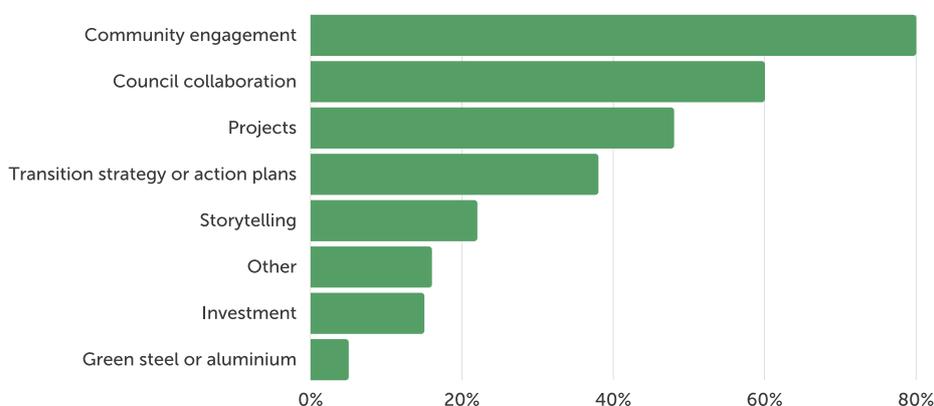


Figure 2: Combined community and individual responses to “which actions are you or your community involved in?”



“ The information, resources and webinars provided by BZE are very helpful in informing and providing a network of support and guidance for our local community group to champion the issues at our local level.”

The sectors of most interest to the community were ranked as energy, transport, waste, buildings, land use and industry - with a higher focus on waste for individuals. Community engagement, education and training were also of interest in a broad range of areas, for example environmental health and protection, government advocacy, legal implications of climate risk, heatwave and bushfire protection and learning from Traditional Owners.

Barriers

The biggest barriers for communities were time and funding. Most community groups operate on a voluntary basis with limited resources and capacity. Despite these barriers most are conducted by skilled and capable individuals with drive and clear objectives. The contribution made by these groups and individuals to support local climate action and strategy is phenomenal.

Funding is also very limited with most groups operating with minimal budget. Local council, state government or philanthropic grants were the most common source of funding, with a few groups generating income through commissions, consultancy or renewable energy projects.

“ Our existing programs fully engage our current volunteer capacities”

Taking local zero emissions projects from idea to reality is also a significant undertaking with many hurdles beyond the scope of community groups. Feasibility studies or business cases cost from \$50,000 - \$250,000 and are out of the scope of most community groups to manage. Collaboration with the public and private sector to aggregate replicable projects and reduce administrative and learning curve costs would be valuable and enable more projects to succeed at scale and at speed.

Investment

62% of community respondents had projects that were seeking funding including: “numerous commercially viable projects - including solar, wind, bioenergy,

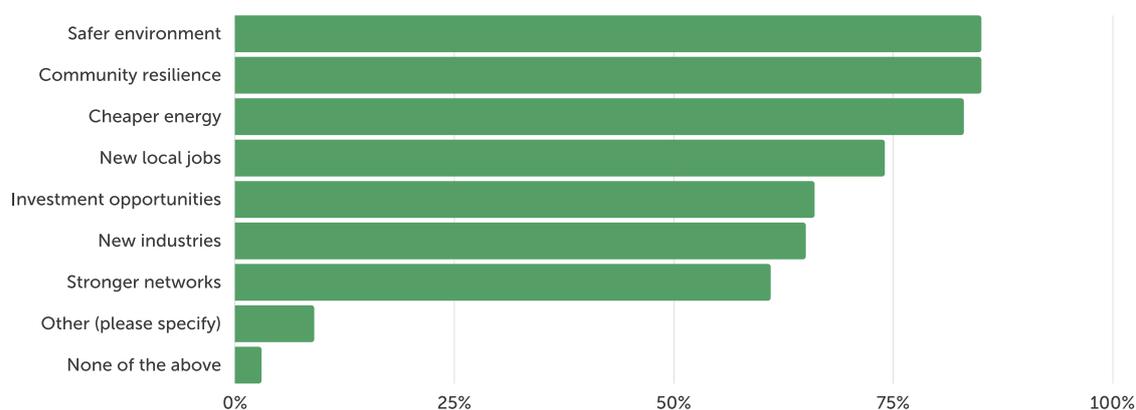


Figure 3: Combined community and individual responses to “Will your community benefit from a transition towards zero emissions?”

storage and virtual power plants,” rooftop solar for low income housing and large scale community renewable projects. Communities recognised they need support to collaborate with investors. Resources to enable local projects such as contracts and investment schemes were seen as helpful.

Opportunities

Communities and individuals identified new local jobs, community resilience, a safer environment, stronger networks, cheaper energy, new local jobs, investment opportunities and new industries as ways their communities would benefit from a transition to zero emissions (Figure 3).

Community groups (83%) and individuals (59%) are very well connected to decision makers in their region with established relationships to a range of actors such as: state government, State and Federal Members of Parliament, Mayors and Councillors, key council staff, local companies and businesses, banks and credit unions, stakeholder groups such as Chambers of Commerce, Agribusiness and Tourism, Tafe and Universities, energy providers, sports groups, schools, religious groups, local farmers, environmental groups and Traditional Owners. 32% of individuals and 48% of community groups had engaged with their local businesses

or industry on climate or zero emissions solutions.

“ We have a direct and strong relationship with the Council's CEO and Mayor and Councillors. We have worked hard to develop relationships with the local civic associations, community clubs and sporting groups. We spend a lot of time listening to these people's thoughts and concerns and have received fantastic advice and support in return.”

13% of individual respondents and 34% of community groups had engaged with local Traditional Owners on climate or zero emissions solutions.

“ We have supported some of their campaigns and they in-turn have supported some of our events - including Welcome to Country and talking at events”.

These engagements were often seen as the start of an ongoing relationship, while others were leading in this space.

60% of communities had a communications plan and a targeted approach to engagement. Tools used to engage the community include social media, meetings with local representatives, websites, events and newsletters. Individual respondents also used these tools as well as petitions, non-violent direct-action,

protests, newspaper columns, word of mouth lobbying, face to face and online meetings, emailing local politicians, door knocking, community festivals, school pick up and shopping centre chats, op-eds, media and presentations at public forums.

“ We have a targeted approach depending on issue at hand, including an up to date media contact list, direct contact with radio stations/reporters; monitoring of media for opportunities to respond and different social media platforms”.



Images: Diana Sharipova

Queenscliffe Community Leading the Climate Emergency Response

The Borough of Queenscliffe is Victoria’s smallest local government area with a permanent population of around 3,000 people.

In October 2019 residents held a community meeting, concerned about the increasing impacts of the climate crisis. At that meeting, the Queenscliffe Climate Action Group was formed and in December 2019, after receiving a petition of 2145 signatures, the Borough of Queenscliffe Council declared a climate emergency and committed to developing a response plan with the community.

The Climate Emergency Response Plan that has now been developed is a community-led initiative, underpinned by a true partnership with Council. This whole community approach will be crucial across the plan’s 10-year duration to ensure that the ambitious targets that have been set, are met.

The Borough’s Climate Emergency Response Plan may be the first in Australia to partner directly with Traditional Owners in a climate emergency response. It recognises the Wadawurrung Traditional Owners Aboriginal Corporation on a government-to-government basis with a foreword in Wadawurrung language; has Wadawurrung language incorporated into the community vision; and has a ‘Wadawurrung Country, Cultural Heritage and Values’ pillar with its own dedicated actions – all of which have been developed in partnership with the Wadawurrung.

Grassroots stakeholder outreach has been crucial to the plan’s development. Queenscliffe Climate Action Group met with a huge range of community leaders to talk through the details of the response plan with a focus on how each group can play their part and be involved. The Borough now has an activated community network that will be crucial in bringing the plan to life.

Summary

Community groups are driving targeted climate action and strategy, directly and/or in collaboration with councils, business and industry and state governments. They are powerful organisers and well connected to local decision makers. They are aware of local projects that can lead to multiple benefits to their communities and can champion community support for implementation. Collaborating with and providing support to these groups is a key enabler of achieving local, state and federal emissions reductions.

Recommendations

- Ensure consistency in the framing of targets for both councils and communities. This will make comparison and assessment of achievements easier over time. Using a standard science-based target is one way to achieve this, for example, through the [Science Derived Targets Working Group](#)
- Ensure targets fall within a ten year time frame for accountability.
- Seek support from, and collaboration with, local, state and federal governments in order to achieve zero emissions targets and ambitions.
- Provide structured support and resources to enable more efficient and effective delivery of successful projects, recognising that many community groups are capable of leading complex projects and initiatives on a primarily volunteer basis.

- Work collaboratively with Traditional Owners on local climate issues and opportunities.
- Replicate initiatives such as those from the ACT government, the [Sustainability Victoria Community Power Hub program](#) and the proposed [Federal Local Power Plan](#) to support delivery of projects in collaboration with local communities.
- Focus on replicable and ongoing local and state government programs/funds (such as Victorian Community Power Hubs) to support communities across the board, instead of highly competitive and bespoke grants processes.
- Develop forums for public and private sectors to collaborate with communities to support development of local zero emissions projects.



Tools and resources for councils and community

Snapshot Climate

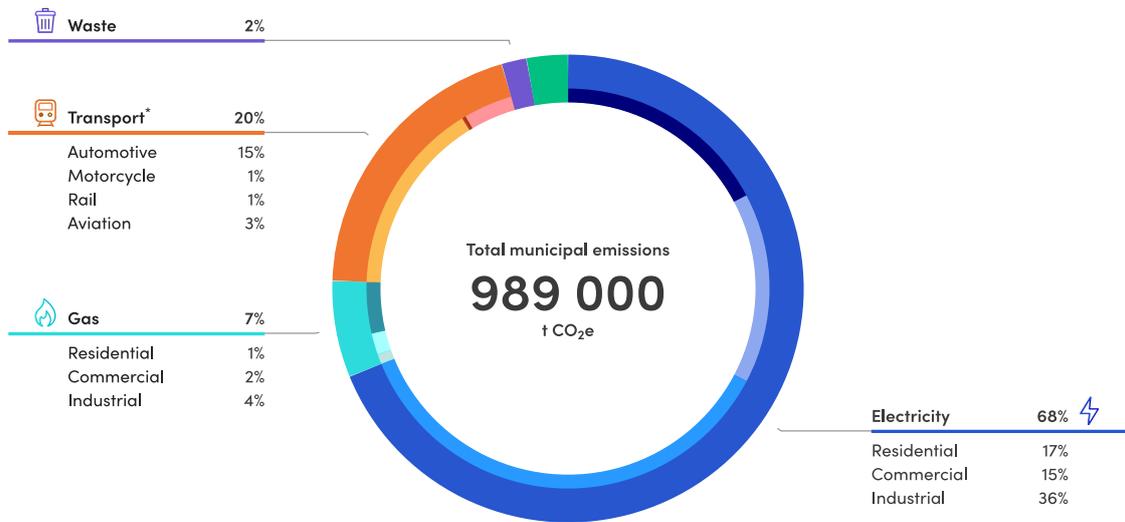
[Snapshot Climate](#) is a world-first resource, providing free community-wide greenhouse gas profiles to councils and communities throughout Australia. Snapshot provides data to inform decisions to transition to a zero emissions economy.

Snapshot reports the major sources of carbon emissions for every Australian municipality, including stationary energy,

transport, waste, agriculture, and land-use change.

The data-rich emissions insights that Snapshot Climate provides are a game changer for a range of users. Snapshot is the essential piece in the puzzle to catalyse effective action, creating jobs and reducing emissions faster and at scale.

Albury profile



Source	Sector	Emissions (t CO ₂ e)
Waste	Landfill	9 000
	Water	8 000
Electricity	Residential	171 000
	Commercial	152 000
	Industrial	358 000
Gas	Residential	8 000
	Commercial	17 000
	Industrial	41 000

Source	Sector	Emissions (t CO ₂ e)
Transport*	Automotive	155 000
	Motorcycle	1 000
	Bus	0
	Rail	2 000
	Tram	0
	Aviation	39 000
Agriculture		28 000
Land Use		-1 000

Land Use data is not used in the chart nor the displayed total municipal emissions.

* Transport activity data from Google Environmental Insights Explorer

Table 2: Snapshot survey responses and testimonials

Community	Cities	Local government authority	Policy makers
The Snapshot tool provides an easy to understand and meaningful summary of community emissions. This information has been vital in helping to shape our priorities for climate action and to communicate information about community emissions.	The snapshot tool is fantastic to see what our city's contribution to carbon emissions are. There's been a big gap in this data for the past 10+ years, so this data is super useful for action planning.	Snapshot is a godsend – it helps everyone easily and quickly understand their local profile to determine policy levers to reduce emissions.	The Snapshot tool was invaluable in developing our community emission profile for our Climate Emergency Response Plan
The Snapshot tool is a great way to identify and communicate where the big target areas for emissions reduction are in the community.	Snapshot has really helped us to get a clear idea of where the major emissions are generated in our community, and given us a focus for future interventions. As our industrial area is a major contributor - our focus will potentially be on that space over the coming couple of years.	Snapshot is a fantastic communications tool to inform the community and decision makers, whether you're starting the conversation about LGA-level emissions or wondering where to target your action, it brings the big climate issue much closer to home.	Snapshot is a hugely valuable dataset for urban planning, transport, and climate change teams. The tool will greatly assist with policy development, intervention design, and program evaluation; and will save councils an enormous amount of time and effort.

Snapshot has partnered with key local and state governments, city networks and community groups to move to climate action as fast as possible. Snapshot makes data accessibility and insights clear and easy for all stakeholders and avoids duplicating data processes.

Everything Snapshot does is about collective action – sourcing, analysing and understanding community emissions data needs to be a collaborative approach and available to all councils and communities. When the data knowledge and insights are improved for one council or community, the aim is to improve broader knowledge for the entire sector and share across the board so we can all move faster and better on climate action.

“A number of us are lobbying our Council to take on a project to reduce community emissions. We have successfully lobbied to have an Environment Advisory Committee which will advise the Council about such a project. I have disseminated our Snapshot profile to all Councillors. The council is now developing a Climate Action Strategy that will cover Reduction, Adaptation and Transition.”

Snapshot has removed some data collection, verification and reporting obstacles by partnering with key stakeholders at the highest level. For example ICLEI Oceania is removing barriers for councils in Australia who have joined GCoM by ensuring data from Snapshot is ready to be used for reporting to international programs. Essentially this means that because the data and methodology is of the highest quality and independently verified as compliant (with

international carbon accounting protocols), any emissions reporting requirement is now completed through the use of Snapshot.

Over the next few years, the opportunities for Snapshot users will grow. The team will collaborate to ensure data and analysis is collated and shared with all, specifically looking at how to incorporate emissions reduction targets and carbon budgets, automatic reporting to platforms like the ICLEI-CDP unified reporting system, incorporating climate data and impacts and action-planning tools and recommendations - for all Australian councils and communities.

Snapshot Climate has been generously supported by a number of funders and partners along the way. The Lord Mayors Charitable Foundation embraced our vision, seeded our endeavour, and continues to support us generously. Sustainability Victoria (SV) jumped on early to look at how to improve agriculture and emissions for regional councils, and the Department of Planning, Industry and Environment (NSW) helped ensure profiles were developed for all of NSW.

More recently the Department of Environment and Science (QLD) and the Local Government Association of Northern Territory (LGANT) supported us to ensure their states and territories were at the table. The Telematics Trust is helping provide Snapshot profiles for all Australian Federal electorates.

A shout-out to some special South Australian Councils

All 68 South Australian (SA) councils were able to have Snapshot profiles developed in July 2020. Snapshot was essentially “crowd-funded” through the Regional Climate Partnerships by 18 leading councils who all contributed to support Snapshot development, maintenance and release for communities and councils throughout the state. These councils are Adelaide Hills, Campbelltown, Charles Sturt, Gawler, Holdfast Bay, Marion, Mitcham Murray Bridge, Norwood Payneham St Peters, Onkaparinga, Port Adelaide Enfield, Port Lincoln, Prospect, Southern Mallee, Tea Tree Gully, Unley, Victor Harbor and West Torrens.

Funding Organisations:



Independent Technical Review and External Endorsement:





Google Environmental Insights Explorer

Snapshot Climate formed a partnership with Google in late 2020 to integrate more accurate transport data from Google into Snapshot. Councils from throughout Australia have already found the transport data from EIE in Snapshot to be useful, including, Hobart (Tas), Bellingen (NSW), Canning (WA), Perth (WA), Melbourne (Vic), Sydney (NSW), Ipswich (Qld), Manningham (Vic), Marion (SA), Mitchell (Vic), Mornington (Vic), Murrindindi (Vic), Moreland (Vic), Newcastle (NSW) and Nillumbik (Vic).

As a result of this exciting partnership, a new treasure trove of climate data is now publicly available for 190 Australian councils on Google’s Environmental Insights Explorer (EIE), which includes building emissions, transportation emissions and solar offset potential.

EIE is a free online tool that harnesses Google’s comprehensive global mapping data to help cities to measure, plan and reduce overall carbon emissions and pollution. Anyone can access and download data to support climate action plans, community engagement efforts, understand solar potential, and bolster the capacity of councils to target action and resources in their communities.

Ironbark and Beyond Zero Emissions have been working with Google to help Australian councils and communities

access more accurate, affordable community emissions data. Together they developed the first community emissions profiles in Australia to incorporate granular transport emissions insights – from real traffic activity data.



It’s important for other organisations to follow Google’s lead and start making more information available for public benefit in the fight against climate change.

“Google’s Environmental Insights Explorer in Snapshot provides a hugely valuable dataset for urban planning, transport, and climate change teams. The tool will greatly assist with policy development, intervention design, and program evaluation; and will save councils an enormous amount of time and effort.”
Liam Henderson, *City of Melbourne*

Targets

There are three key parameters to consider when setting a community-wide emissions reduction target: what is necessary, what is achievable and who is accountable?

A consistent, equitable and science-based approach provides a framework for setting a community-wide emissions reduction target.

Science Derived Targets

Science Derived targets are generated in line with the Intergovernmental Panel on Climate Change (IPCC) and the Paris Agreement. The [process involves scaling the global carbon budget down to the national and then local level](#) (to have a 50-66% chance of limiting warming to 1.5°C). Generally, this approach demonstrates that without urgent action, Australian councils and communities will run out of their carbon budget in the next 8-15 years, or 0-9 years for 1.5°C. More information is available [in this explainer document](#).

The exact budget and timeframe depends on the allocation of the national carbon budget across Australian councils - this should take into consideration fairness and equity by incorporating a council's community emissions profile, emissions trajectory and relative ability to reduce emissions.

The [Science Derived Targets for Australian Local Government Working Group](#) is comprised of experts who share knowledge on developing carbon budgets and setting targets that are in line with the latest science. Standing members of the group include representatives from Ironbark Sustainability, Climate Emergency Australia, the Northern Alliance for Greenhouse Action (NAGA), Goulburn Murray Climate Alliance (GMCA), Beyond Zero Emissions, Sustainability Victoria (SV), ICLEI Oceania and City of Melbourne. Representatives from City of Darebin, City of Penrith, Western Sydney Regional

Organisation of Councils (WSROC) and the Melbourne Sustainable Society Institute (MSSI) have also been involved. On the agenda for 2021 and beyond are communicating targets with the broader community and incorporating underlying technical information into free and accessible platforms such as Snapshot Climate. In the meantime any council or community group can [receive their carbon budget for free from the working group](#).

Ultimately, local decisions around targets are a dynamic product of community and political support, internal and external policy settings, resourcing, capacity and political will. There are different reasons councils set targets, and different issues that need to be taken into consideration. For example, targets can be used to:

- Measure success and understand whether you've achieved what is required
- Drive action at the level commensurate with the problem
- Provide context for climate action planning
- Motivate stakeholders to achieve an outcome
- Have a common goal for the council and community to focus on
- Unify council and community to understand the task at hand
- Provide common definitions of success
- Provide guidance on the projected impact of action plans, and to assess their impact
- Ensure accountability and focus efforts and resourcing
- Find the best and most efficient route to reach the target

Setting community-wide targets

Importantly, the “science derived target” or carbon budgeting approach aligns closely with the latest [Climate Council report articulating that Australian needs to reach net-zero by 2035](#). Any target needs to reflect the urgency of the situation and drive steep emissions reductions within the decade. Despite the fact that there is inequality and disadvantaged communities throughout Australia, our councils and communities are generally better resourced than most of the world. We have the means and the responsibility to act fast and it is recommended that targets are set to reach net-zero in the next 10-15 years.

Targets are a critical part of the climate action journey. However, just like the development of an emissions profile, it shouldn't require too much time, cost or resourcing to develop and adopt. If discussions and debates around setting targets are taking too long then move onto achievable actions. It is more important to spend time and resources on actions and implementation.

Your carbon budget will provide the science-derived target outlining what is required for your council area. Use this analysis to understand and frame the urgency of the problem and to inform action planning that is commensurate with the challenge. Once you understand your carbon budget it becomes clear that piecemeal action is not sufficient and we need significant emissions reduction in line with the science.

Actions taken in this decade will make a significant difference. It is not a council's responsibility alone to meet community-wide targets but they have a clear role in setting an appropriate agenda and facilitating collaboration, support and action at all levels of the community, business and government.

Global Cities Activity Database

Improving the sophistication of climate action planning

A novel approach to analysing discrete actions in climate strategies has been developed by Ironbark Sustainability and University of Melbourne, supported by the GCoM Innovate4Cities initiative. The Cities Activities Database provides an improved way for cities to learn from each other through removing the need for city practitioners, researchers and other stakeholders to individually review strategies and other relevant documents.

The “strategy scan methodology” seeks to categorise proposed actions to develop a searchable mitigation and adaptation action database. The database highlights targeted climate change causes and impacts, governance mechanisms, topical areas, and anticipated outcomes based on descriptions in council climate strategy documents from throughout the world.

Zero Carbon Communities

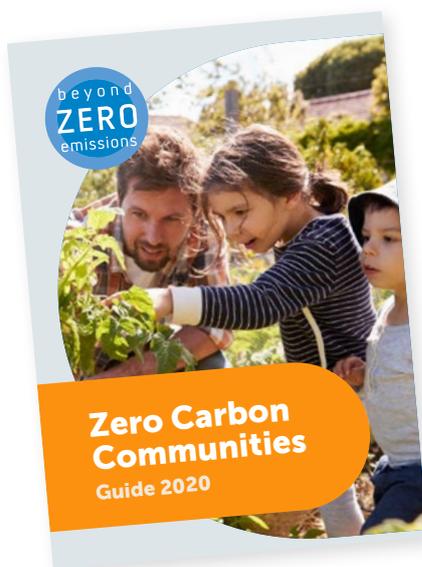
[Zero Carbon Communities](#) create jobs, support the local economy and help deliver a bright and vibrant society and environment. The Zero Carbon Communities initiative supports and connects people, groups, clubs, communities, business and industry, investors and councils who want to see rapid local progress towards zero emissions.

There is so much we can do, around Australia, to reduce our carbon footprint, create new jobs and build a safer, more resilient and connected future. More than ever, communities are working together to determine solutions and pathways to solve these problems.



Small groups of people, setting a big vision, can lead to dramatic changes in their local area. Zero Carbon Communities are embracing this pivotal moment for Australia, fighting for their local communities.

Our vision is an ever-growing network of communities across Australia, working together to achieve zero carbon status. There are massive opportunities for communities and councils looking to drive local job growth and economic recovery, as well as create positive environmental and social outcomes.



Cities Power Partnership

The [Cities Power Partnership](#) is a national climate action program that is supporting local governments and communities all across Australia to transition to net-zero emissions.

The program is Australia's largest network of cities and towns tackling climate change, with over 147 partner councils that represent over half of the Australian population.

The Cities Power Partnership is made up of councils of all shapes and sizes - from small regional towns to large metropolitan cities. When councils sign up to the program, they pledge five actions to tackle climate change locally, from ramping up renewable energy through to planning sustainable transport systems.

In just three years, partner councils have committed to over 700 climate and energy pledges. Some of the innovative projects councils are taking part in include transitioning council fleets to electric vehicles, installing solar battery systems in thousands of homes and businesses, and even spearheading Australia's first carbon-neutral kindergarten.

Climate Emergency Declarations

The Climate Emergency movement was kicked off by community champions who encouraged Darebin City Council to declare the first Climate Emergency in the world in 2016. They have since been joined by over 1,900 councils, communities and state governments around the world representing just over one billion people. The movement has helped place demands for increased government action on climate change, particularly at the local level, and to place pressure on state and national governments to enable rapid decarbonisation. Resources to help Councillors, council staff and community members enact urgent climate emergency action in their community are [available](#).

Global Covenant of Mayors for Climate & Energy (GCoM)

GCoM is the largest global alliance for city climate leadership, built upon the commitment of over 10,500 cities and local governments. These cities hail from six continents and 140 countries. In total, they represent more than one billion people.

The cities and partners of GCoM for Climate & Energy share a long-term vision of supporting voluntary action to combat climate change while working toward a resilient and low-emission society.

GCoM cities and local governments are united in their shared goals to increase access to secure, affordable, and sustainable energy, ensure communities live in healthy environments, and raise awareness to accelerate the response to climate change. In collaboration with partners, GCoM is helping cities bridge the knowledge gap, enhance access to information, build partnerships with data

and climate service providers, and access financial institutions and organizations that can provide relevant tools and information to facilitate their efforts.

In Australia, GCoM provides access to the latest research and knowledge generated through the Innovate, Invest and Data for Cities Initiatives, providing support for signatories and partners and helping to publish and provide recognition of actions and measures in the areas of mitigation, adaptation and energy access. GCoM Oceania has a pivotal role in advocacy and accelerating climate action through Councillors and partners on the GCoM Oceania committees and through our representative on the Global Board. Any council is able to join this global climate program.

ICLEI Oceania

[ICLEI – Local Governments for Sustainability](#) is a global network of more than 2500 local and regional governments committed to sustainable urban development. Active in 125+ countries, ICLEI influences sustainability policy and drives local action for low emission, nature-based, equitable, resilient and circular development.

ICLEI helps cities, towns and regions anticipate and respond to complex challenges — from rapid urbanization and climate change, to ecosystem degradation and inequity. This is done through global programs and delivery pathways.

Across Australia, New Zealand and the Pacific, ICLEI Oceania provides leadership and manages the GCoM in Oceania. Promoting the Green Climate Cities program, the ICLEI Climate Neutrality Framework supports campaigns like the official Cities Race to Zero and Cities Race to Resilience, alongside other initiatives related to the UNFCCC and Conference of the Parties events.

ICLEI Oceania thinks globally while implementing locally, develops partnerships with other local government associations and accelerates local action through Cities with Nature and SDG Challenge. As the focal point for the local government constituency globally, ICLEI coordinates input into various UN processes on climate and biodiversity. ICLEI's advocacy role is supported by a regional executive team of local Mayors and Councillors who join with the rest of ICLEI's offices worldwide to promote action through global governing committees.

Coalition for Community Energy

The Coalition for Community Energy ([C4CE](#)) is the peak body of the growing community energy sector and supports community energy groups around Australia with networks, knowledge and advocacy. Established in mid 2014, C4CE has now grown to more than 105 member groups across Australia transforming their communities toward zero-net emissions. C4CE provides resources and a platform for people to share their own resources and knowledge.

Citizens Own Renewable Energy Network Australia ([CORENA](#))

In 2003 CORENA developed Australia's first solar revolving fund. CORENA offers zero interest loans plus independent technical support, primarily to community organisations.

The CORENA model provides a practical and effective way for citizens to collectively fund solar PV, energy efficiency, gas replacement and electric vehicle projects.

The CORENA fund has lent \$800,000 across 42 different projects, with repayments used to perpetually fund new projects. A number of communities have developed their own funds with CORENA operating Australia wide.

Better Futures Australia

The [Better Futures Australia](#) (BFA) initiative is part of a global action supported by Climate Action Network Australia (CANA), part of the Global Alliances for Climate Action Network. [The BFA initiative involves bringing all sectors of Australian civil society together](#) to advocate for stronger national targets in the lead up to the next global climate talks or Conference of Parties (COP) in Glasgow, November 2021.



The Local Cities and Councils sector working group has joined with other sectors in the community – from Land and Agriculture, Corporate and Finance, Built Environment, Aboriginal & Torres Strait Islanders, Transport, Healthcare and more. There are 15 sector working groups all together, and the key opportunities emerging from the initiative are how the sectors can work together. Importantly, BFA provides an “umbrella group” for the local government sector to engage with other sectors. This has already begun, with the Local Cities and Councils group engaging with other sectors in the community on issues around electric vehicles, renewable energy and facilitating improved climate communications throughout the community.

Council

There were 84 councils represented in the 2021 survey, which is slightly less than the 98 council-related organisations represented in the 2018 survey. Of these councils, 94 individuals filled out the survey.

The proportion of responses from each state are represented in Figure 4. The relatively low response rate from some states and territories should be noted in these findings, noting that ACT was not represented in the council results.

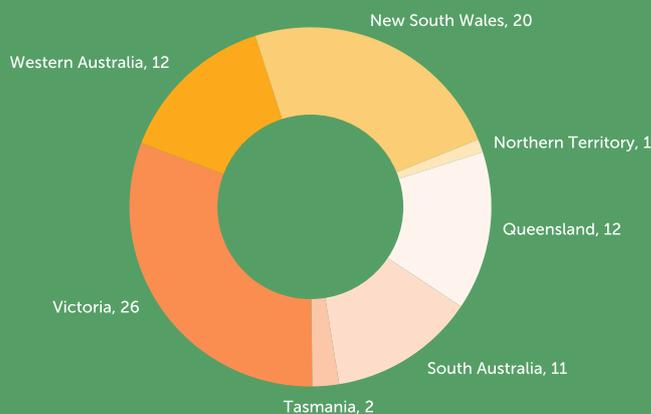


Figure 4: State participation in the survey

Victorian councils are better represented in this survey than other states. This may be due to the location of the organisations involved in the survey and also the Victorian Greenhouse Alliances, which have enabled significant engagement

over the past decade. Responses from Queensland and New South Wales are noticeably higher than in the last survey, while responses from Victoria and Tasmania have dropped.



Figure 5: Number of responding councils in 2018 and 2021

Council Corporate Emissions

Overview

Corporate emissions refer to emissions that councils have operational control over.

These include emissions from council-owned community facilities, street lighting, fleet, and waste and wastewater treatment (where applicable). Councils

have significant opportunities to reduce emissions from corporate operations, and the survey shows that this is an important area of focus for most councils.

Results

Emissions inventories

The majority of councils surveyed (86%) had a baseline inventory for corporate emissions, compared to 72% in 2018. 12% of councils did not have a baseline inventory and 2% were unsure. For those with an inventory for corporate emissions, almost all respondents (91%) thought it was either very accurate or fairly accurate, up from 86% in 2018. As in the last survey, the majority (82% compared to 84%

previously) also reported that the emissions inventory was reviewed regularly. A range of accounting methods, tools and registries were used by councils to develop inventories for corporate emissions. For example, 21% used their own excel spreadsheet (compared to 28% in 2018) and 21% used National Greenhouse and Energy Reporting (Figure 6). These results are similar to those from the previous survey.

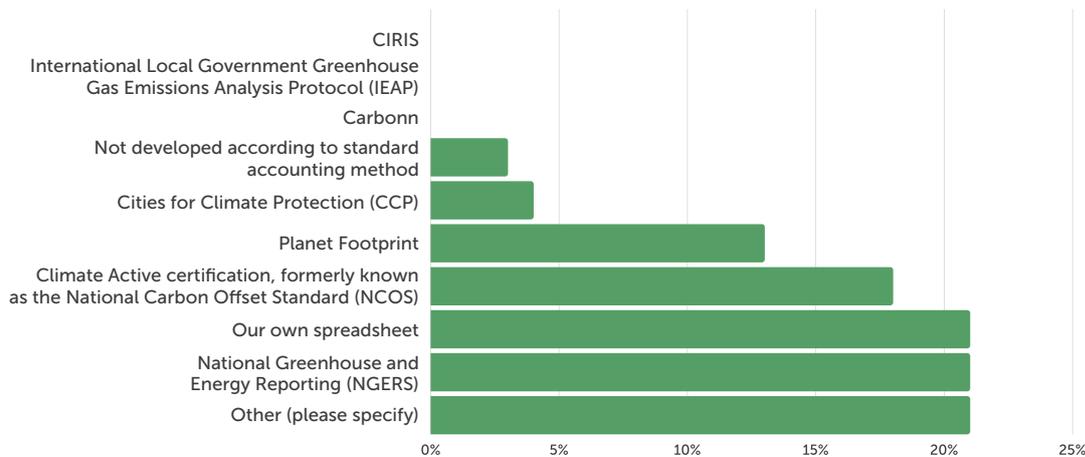


Figure 6: Tools used to create corporate emissions inventories

All responding councils from South Australia, Tasmania and Victoria had corporate inventories (Figure 7). Aside from the Northern Territory and Australian Capital Territory, at least a quarter of

councils within all states also have corporate emissions targets. Note that only one council from the Northern Territory and two from Tasmania were represented in the survey.

Table 3: Does Council have (or intend to have) a target for greenhouse gas emissions reduction for council operations?

Response	Number	% respondents
Yes, we have a target	42	58%
No, but we intend to have a target in the next 12 months	11	15%
No, but we are investigating having a target	10	14%
No, and we don't intend to	4	5%
I don't know	2	3%
Other (please specify)	4	5%

Targets

More than half of the responding councils (58%) had a corporate emissions reduction target, with an additional 15% intending to have a target in the next 12 months, and 14% investigating having a target. Only 5% did not have a target and had no intention of committing to one – down from 12% in 2018.

There was not much variability in the proportion of councils with a target across states, with the exception of South Australia, where only 27% of responding councils reported having a target and Western Australia, where 67% had a target..

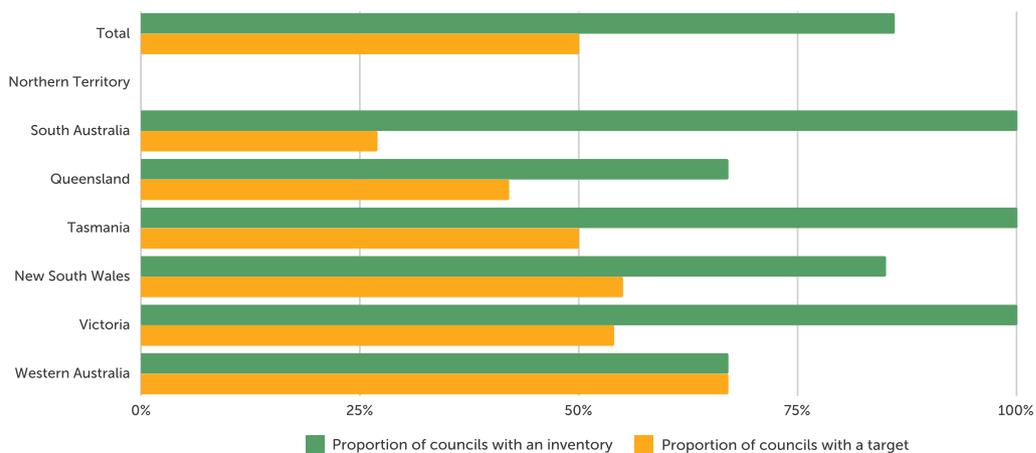


Figure 7: Proportion of councils responding to the survey with corporate greenhouse gas reduction inventories and targets by state

Typically, a council with a corporate emissions target was aiming for a zero net emissions or carbon neutral target (53% of responding councils), with 11% committing

to a science-derived target that generally aligns with reaching net-zero emissions in the next 10-15 years.

Table 4: Terms used to describe corporate emissions targets

Response	Number	% respondents
Zero net emissions	18	40%
Carbon neutral	6	13%
Science-derived target	5	11%
Zero emissions	4	9%
Absolute emissions reduction	2	4%
Other	10	22%

“By 2025, all Council’s vehicles to be powered by 100% renewable electricity/ zero emissions, where practical options are available, and before 2030, all Council buildings to be ‘all-electric’ — powered by 100% renewable energy with no use of gas.”

The majority of targets had been updated recently, with 62% being updated between 2019-2021, and 36% of those having been established for the first time within this period. Most (73%) targets set by

responding councils are not sector-specific. However, sector-specific greenhouse gas emissions reductions targets have been set by some councils for transport, waste and buildings.

Most respondents (87%) were somewhat or very confident that their corporate emissions targets would be met. This has remained stable compared to 2018.

As in the last survey, the most commonly reported barrier in setting corporate targets was the difficulty in accessing data. This is

interesting, given that 86% of responding councils had an emissions inventory, and 91% considered it to be accurate. The other key barrier to setting targets was a lack of high-level support.

“Setting the targets was the easy bit - meeting them will be the real challenge.”

Projects

Many councils provided short descriptions of the projects aiming to reduce emissions from council operations that they were proud of. Renewable energy was a strong theme in the projects provided, with 12 councils listing a group Power Purchase Agreement (PPA) as their biggest or most important achievement. Installation of solar was also a commonly mentioned project. Four councils listed declaring a climate emergency as their biggest win, while electric vehicle policies, urban heat island plans, council building Environmentally

Sustainable Design (ESD) policies, bulk street lighting upgrades and electric vehicle policies were also mentioned multiple times.

Actions, strategies and plans

Around half (47%) of the responding councils had corporate emissions reduction strategies, plans and/or policies in place while 36% of responding councils reported that they intended to have such initiatives in place.

The proportion of responding councils with emissions reduction strategies in place, or intending to have such strategies in place, was highest in Tasmania and New South Wales (Figure 8). It should be noted, however, that only two councils from Tasmania responded.

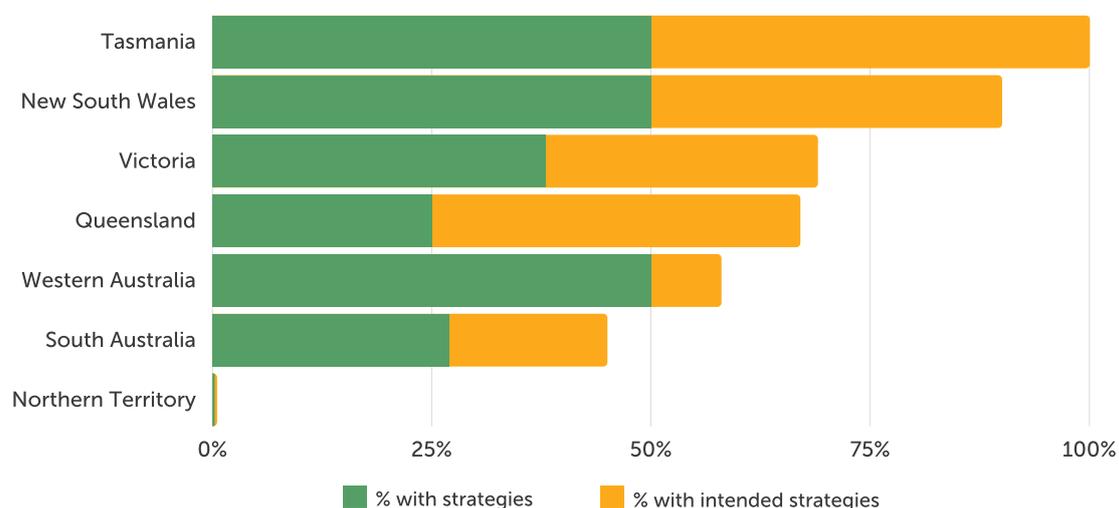


Figure 8: Percentage of councils with corporate emissions reduction strategies, plans and/or policies in place or intended

The majority (80%) of councils who did have or intended to have strategies in place, had them in place for reducing emissions from council facilities and street

lighting (Figure 9). Additionally, 73% had strategies for reducing emissions from their fleet.

Just under half had existing or intended strategies for reducing emissions from waste. While not all councils own or operate landfill sites, for those that do the emissions from landfill sites tend to dwarf emissions from all other sources. Therefore, the impact of a waste strategy for such councils can be significant. Wastewater is only a significant source of emissions for councils that manage a

wastewater treatment plant, which likely explains why few have strategies in place to address it.

The proportion of councils with existing or intended strategies in place increased across all categories between 2018 and 2021 (Figure 9). The increase was most substantial for street lighting and fleet.

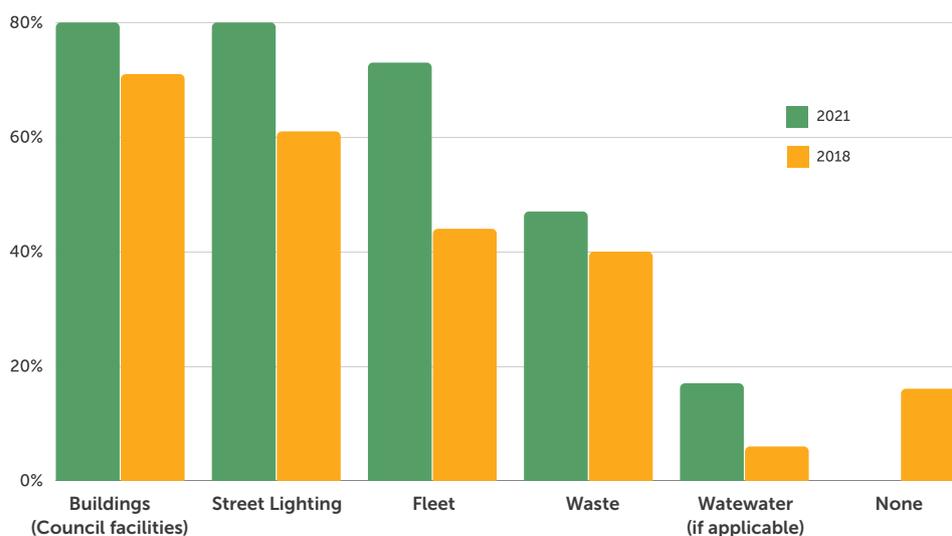
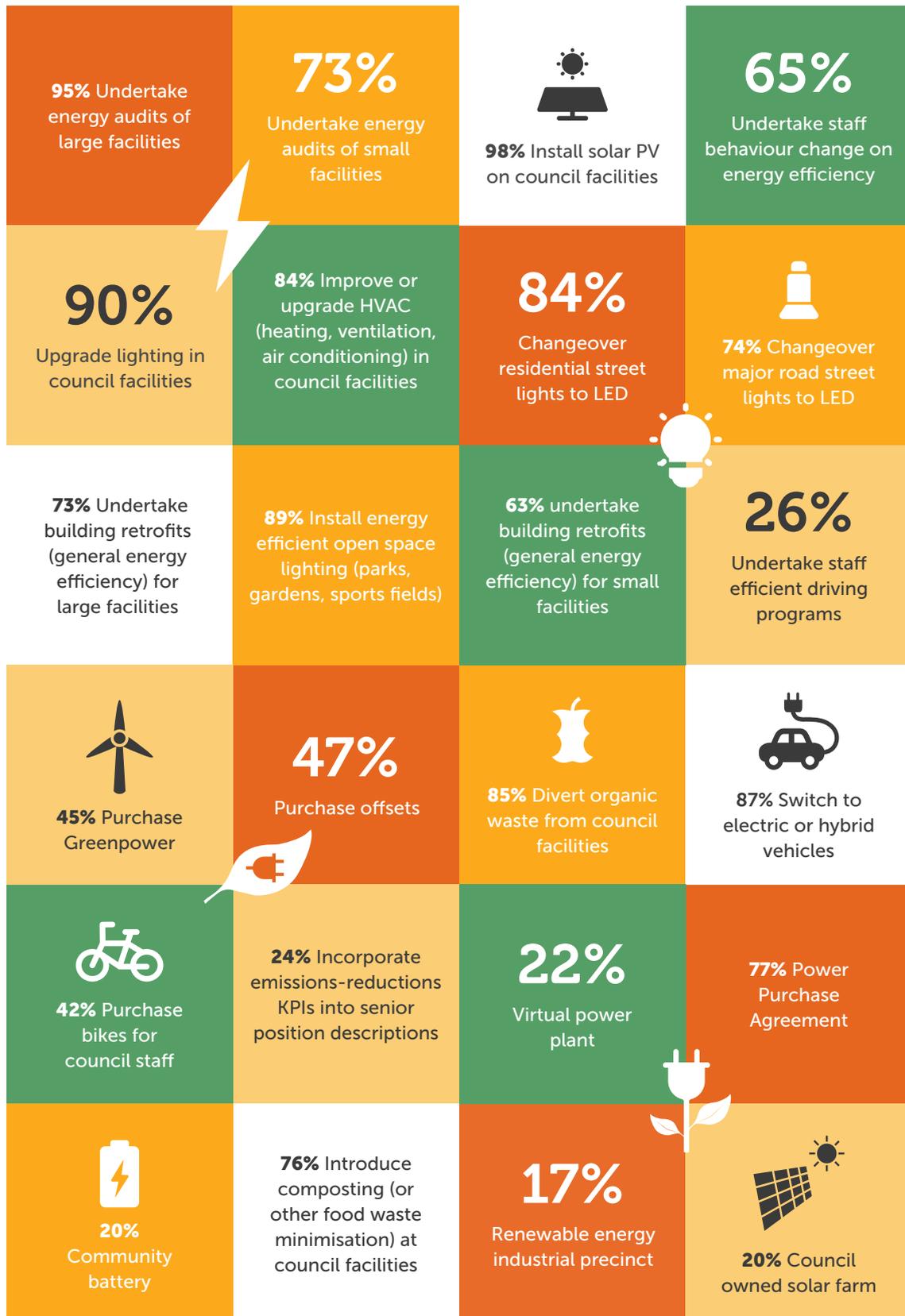


Figure 9: Proportion of councils with effective or intended strategies in place to reduce corporate emissions by sector in 2018 and 2021

The top actions that had already been implemented to reduce corporate emissions mirrored those in the previous survey, including installing solar PV on council buildings (95% compared to 97% last time), energy audits of large facilities (84% compared to 92% in the last survey), and upgrading lighting in council facilities (82% compared to 93%). Facilitating a community battery, virtual power plant, council owned solar farm and renewable energy industrial precinct were the least commonly completed actions.

Figure 10: Proportion doing/planning to do actions, council operations.



The top actions considered the most significant in reducing emissions from council operations included installing solar PV on council facilities, switching to electric or hybrid vehicles and changing residential street lights to LED.

“Being part of a wider network helps to implement larger projects.”

As in the previous survey, funding was ranked as the most important barrier to reducing emissions, followed closely by internal resourcing. Apathy, state legislation and unclear high-level targets/policies were the least frequently selected barriers (Figure 11).

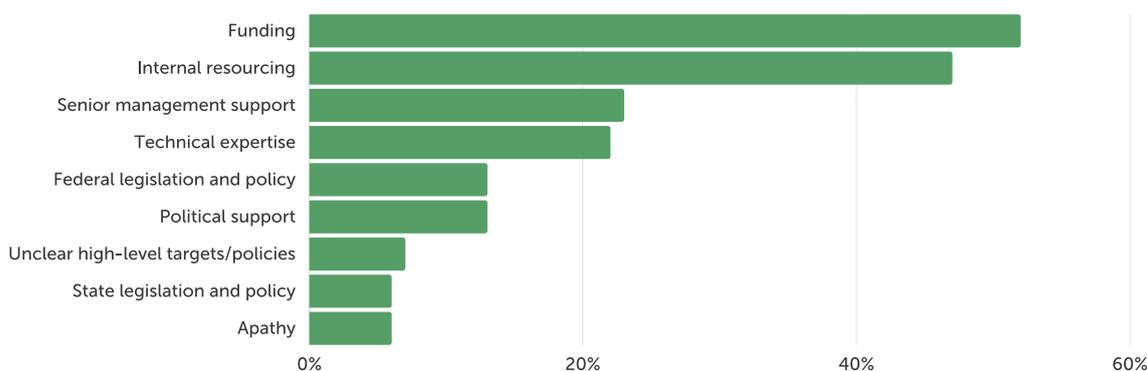


Figure 11: Key barriers to reducing greenhouse gas emissions from council operations

Budgets

Annual budgets towards reducing emissions from council operations ranged from \$0 to \$7.5 million, with the median being \$200,000 and most budgets falling between \$100,000 and \$600,000. This is similar to the results of the previous survey. Budgets included funding for project planning, delivery, implementation, management, development of strategies, plans or business cases, communication and consultants.

Unlike in the previous year’s survey there was no obvious relationship between the budget and population, Gross Regional Product or the council’s SEIFA (Socio-Economic Index for Areas) index. In all but two cases the budget for reducing emissions from council operations was

more than the budget for community emissions reductions.

The budget allocations by state indicate that most councils have limited (less than \$150,000) available to reduce emissions from council operations. The average budget for councils in NSW was more than triple the budget of any other state, but this might be skewed because of the larger size of NSW councils following amalgamations in 2016. Overall, data on budgets was obtained from 38 Australian councils, noting that some councils that completed the survey did not answer this question. The total budget for reducing emissions from council operations for these councils was more than \$20 million.

More budget and resourcing is required to meet the level of ambition, noting that some corporate emissions reduction projects actually require very small budgets (for example councils joining up with

planned PPAs) or no capital costs (for example, some LED street lighting projects can be funded through lighting tariffs). Similarly, shifting to electric vehicles may not be part of a "climate budget".

Table 5: Corporate emissions reduction budgets and response rates by state

Response	# councils represented	% councils in that state represented	Average Budget	Total Budget
New South Wales	11	9%	\$ 1,347,273	\$ 14,820,000
Northern Territory	1	6%	\$ -	\$ -
Queensland	5	6%	\$ 315,067	\$ 1,575,333
South Australia	4	6%	\$ 108,750	\$ 435,000
Tasmania	1	3%	\$ 100,000	\$ 100,000
Victoria	13	16%	\$ 428,269	\$ 5,567,500
Western Australia	3	2%	\$ 100,000	\$ 300,000
ACT	0	0%	Not applicable	Not applicable
Total	38	7%	\$ 599,943	\$ 22,797,833

Summary

The majority of responding councils reported that they had a fairly accurate or accurate baseline inventory for corporate emissions, and that this was updated regularly. By contrast, just over half of the responding councils had committed to a corporate emissions reduction target, with the key barrier cited as a lack of accurate data.

Over 80% of councils had, or intended to have, corporate emissions reduction strategies, plans and/or policies in place for

reducing greenhouse gas emissions from council operations. Almost all of these councils had them in place for reducing emissions from council facilities, street lighting and fleet.

Funding and internal resourcing were the key barriers to reducing emissions, with the median budget to reduce emissions being \$200,000. This highlights the importance of federal and state support for local government climate initiatives.

Key findings

- 86% of the responding councils had a corporate emissions baseline inventory.
- 58% currently have a corporate emissions reduction target.
- 87% of the responding councils had, intended to have, or were investigating implementing a corporate emissions target.
- 87% of the responding councils are confident in meeting corporate emissions targets.
- 83% of responding councils have corporate emissions reduction strategies, plans or policies in place or intended to develop them. This is marginally down from the high-water mark of 93% in the last survey.
- A lack of funding and resourcing are the most significant barriers in reducing corporate emissions, with the median budget to reduce emissions being \$200,000.
- The top actions already implemented to reduce corporate emissions include installing solar PV on council buildings, energy audits of large facilities and upgrading lighting in council facilities.
- The top actions considered the most significant opportunities to reduce corporate emissions include installing solar PV on council facilities, switching to electric or hybrid vehicles and switching residential street lights to LED.
- There was little variability across states for the surveyed councils, with the notable exception of budget, where councils in NSW tended to have substantially higher budget allocations than those in other states.

Opportunities and recommendations

- Investigate the free resources, tools and courses for developing corporate emissions inventories such as [Sustainability Victoria's Local Government Energy Savers program](#).
- Start or continue to set ambitious targets to reduce corporate emissions.
- Ensure that declarations of a climate emergency are translated into organisational carbon neutrality as soon as possible (including offsetting residual emissions) and then work on the reduction of emissions each year.
- Develop corporate emissions reduction strategies, plans and/or policies.
- Focus on projects with high emissions potential or work together with other councils and partners to consider the range of procurement and investment options available.
- Include goals and actions in corporate and annual plans with respect to reducing corporate and community emissions, increasing renewable energy, climate change adaptation, and monitoring and evaluation.

Case studies

Leading the Electric Vehicle Charge: Moreland City Council, Victoria

Moreland has been a leader in encouraging the uptake of zero emissions vehicles and the promotion of zero emissions transportation since 2012, when they participated in the Victorian Government's Electric Vehicle (EV) Trial. This included the installation of Victoria's first EV fast charge station way back in 2013.

Moreland City Council now has 26 electric vehicles in its fleet, making it the largest EV fleet in Victoria, and a network of 11 publicly available electric vehicle charging stations, including 5 fast-chargers, which are powered by 100% zero emissions renewable energy from the Crowlands Wind Farm.

Council provides community members who have an electric car with free use of these charging stations to encourage wider uptake of zero emission modes of transport. According to Chargefox, the Brunswick EV hub is the most heavily used

hub across Australia on their network. Across all public chargers, there were over 1,000 charging sessions in April 2021. Electric bike recharging is also available to the public at the Moreland Civic Centre.



Image: www.moreland.vic.gov.au

The WA Renewables Powerhouse: City of Cockburn, WA

After hitting its 2020 target of generating 20% of electricity from renewables, the City of Cockburn has a new target to source 100% from renewable energy by 2030.

Cockburn has the largest inventory of renewable energy systems of any local government in Western Australia including solar, wind turbines, geothermal heating and methane gas capture. The City is now seeking to overcome the regulatory barriers for sustainable energy procurement in WA by actively participating in the WALGA Renewable Electricity Supply agreement for the benefit of all member local governments in WA.

Cockburn ARC (Aquatic and Recreation Centre) is home to one of WA's largest rooftop solar installations, with a massive 1MW system comprising 3,592 solar panels.



Image: [Cockburn ARC](#)

Sunshine Coast Solar Farm: Sunshine Coast City Council, Queensland

Sunshine Coast is Australia's first local government to offset its entire electricity consumption across all its facilities and operations from renewable energy generated at the 15MW Sunshine Coast Solar Farm. This includes Council's administration buildings, aquatic centres, community and performance venues, as

well as holiday parks, libraries, art galleries and sporting facilities.

Completed in 2017, the Solar Farm has saved Council \$1.85 million and 75,000 tonnes CO2 since generation began. It will provide \$22 million in savings, after costs, over a 30-year period.



Other councils are following in Sunshine Coast's footsteps and Council is looking at connecting batteries in the future as costs decline.

Image: <https://www.sunshinecoast.qld.gov.au/Environment/Sunshine-Coast-Solar-Farm/Solar-Farm-Overview>

Victorian Energy Collaboration

The Victorian Energy Collaboration (VECO) has enabled 46 Victorian councils to switch to 100% renewable energy and is the largest emissions reduction project undertaken by Australian councils.

The 'buyers group' aggregates approximately half of the entire sector's electricity load – equivalent to powering 48,000 homes with renewable energy or taking 90,000 cars off the road each year. The project will source renewable energy to power council offices, leisure centres, streetlights and community buildings, reducing costs, creating jobs and protecting the environment.

The project was initiated and facilitated by the Victorian Greenhouse Alliances with Darebin City Council leading group procurement activities for the landmark Power Purchase Agreement.

This changes the game and the corporate emissions reduction strategies and plans for these councils. Instead of managing energy efficiency and solar on community buildings, the focus now turns to electrification of vehicles, getting off gas and strategies to get to zero waste emissions.



Council Community Emissions

Overview

Community emissions refer to emissions generated by the broader community in a municipality, rather than those from council operations alone.

Councils' corporate (or operational) emissions typically represent only a small percentage (1-2%) of community emissions. The range of actions councils can take to directly reduce community emissions can be limited but councils

have an important role in facilitating key players within the municipality to take action, and in advocacy with state and federal government and the private sector to reduce emissions as part of a whole community effort.

Results

Emissions profiles

With the introduction of [Snapshot](#) since the last survey, community emissions information is now available online, free of charge, to every council in Australia.

Most responding councils (71%) reported that their council did not have a recent

(post 2015) baseline profile of community emissions other than that provided by Snapshot, while just over a quarter (29%) did, and 3% were unsure. There has been little change in these results since 2018.

Of those councils with a community emissions profile other than Snapshot, the majority (75%) reported that it was very accurate or fairly accurate. This remains consistent with the 2018 survey (74%). Over half of the respondents used the Global Protocol for Community-scale GHG emission Inventories (GPC) to develop their community emissions profile, although many council respondents did not answer this question.

The majority of respondents (83%) were aware of the Snapshot community-wide emissions profile for their municipality, with 65% having used it within their council. Of those using Snapshot within their council, 60% have used it for internal knowledge building and strategy, and 35%

have used it for public communications and engagement. The Snapshot profile was considered very or fairly accurate by 58% of respondents. Additional comments suggest that many councils are satisfied with the profile and find it valuable.

On a state-by-state basis, NSW and Tasmania have a substantially higher proportion of councils with bespoke community emissions profiles compared to in the last survey (Figure 12). However, it should be noted that only two Tasmanian councils responded. Data such as this demonstrates just how challenging it is for individual councils to develop community emissions profiles, hence the development and importance of Snapshot.

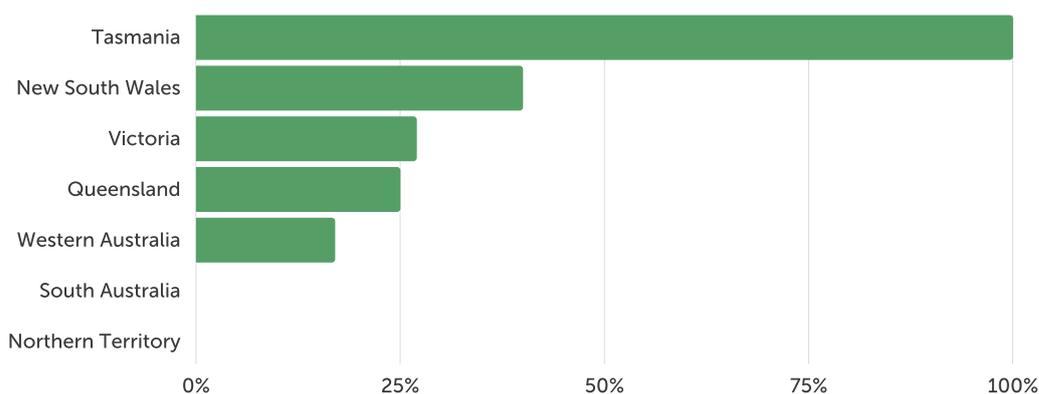


Figure 12: Proportion of responding councils with a community emissions profile (other than Snapshot) by state.

Targets

The number of councils with a community-wide emissions reduction target has increased from 18% in 2018 to 31% in 2021. A further 9% intend to have a target in the next 12 months, while 40% are investigating introducing a community emissions reduction target. Only 10% did not have a target and were not intending

to introduce one, while 10% were unsure. This is a notable change from the 2018 survey where almost half (46%) did not have a target and 17% were unsure if they had a target. It shows that 80% of councils are now taking action in this space; something which can be celebrated.

Table 6: Does Council have (or intend to have) a target for community-wide greenhouse gas emissions reduction?

Response	Number	% respondents
Yes, we have a target	22	31%
No, but we intend to have a target in the next 12 months	6	9%
No, but we are investigating having a target	28	40%
No, and we don't intend to	7	10%
I don't know	7	10%
Other (please specify)	0	0%

The proportion of responding councils with community emissions targets did not change substantially between the two surveys for most states. The exceptions were New South Wales, where there was an increase from 13% to 40% between the two surveys, and Western Australia, where there was an increase from 7% to 17% (Figure 13).

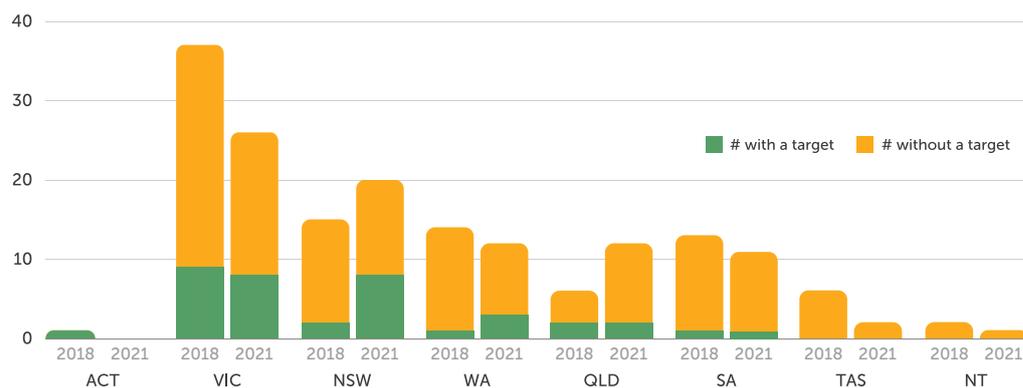


Figure 13: Number of responding councils with community emissions targets, by state and year.

“ Council and the community could get to net-zero emissions by 2031.”

This is clearly a current area of work for councils, with 41% of targets being set between 2019-2021 and 33% having updated a previously set target during this period. Zero net emissions/carbon neutral targets were the most popular type of target, accounting for 30% of responses, with a further 7% being science-derived. Most of the targets were not sector-specific although sector-specific targets for energy, transport, land use and waste had been set by some councils.

The most commonly reported barrier in setting community targets was the lack of direct control on the part of councils in being able to meet the target.

“ It is a stretch target. It will require much stronger action from other levels of government and significant societal change. That said, it is possible, and I believe we will strongly reduce from where we are now.”

“ Being part of long-term community goal towards carbon neutrality is exciting.”

Projects

When asked to nominate the community greenhouse gas emissions reduction project they were most proud of, most respondents nominated solar energy projects. Other common themes were community sustainability events and capacity building, and community climate change plans and strategies.

Actions, strategies and plans

As in the last survey, a small proportion of the responding councils (20% compared to 22% previously) had community emissions reductions strategies, plans and/or policies in place. However, the proportion who intended to do so had increased from 28% to 39%, while 16% of those reporting on behalf of their council did not know if they had any costed plans, strategies or policies in place.

Around a third of responding councils had or intended to have effective strategies

for community emissions reductions for stationary energy, transport and waste, compared to 17% for industrial processes and product use, with 12% for agriculture, forestry and other land use.

A climate emergency declaration had been made by 49% of responding councils, with 13% having a climate emergency plan already in place. While 17% had not yet made a declaration but were considering doing so, a further 33% of council respondents reported that they had not made a climate emergency declaration and did not intend to do so.

“Momentum was huge after declaration, subdued a little due to COVID being first priority now.”

Of councils who have declared a climate emergency, 83% reported that making the declaration had had a positive impact on climate action within the council. The most significant impacts were noted as helping to make climate change a consideration for all parts of council operations, and helping to prioritise resources for climate action.

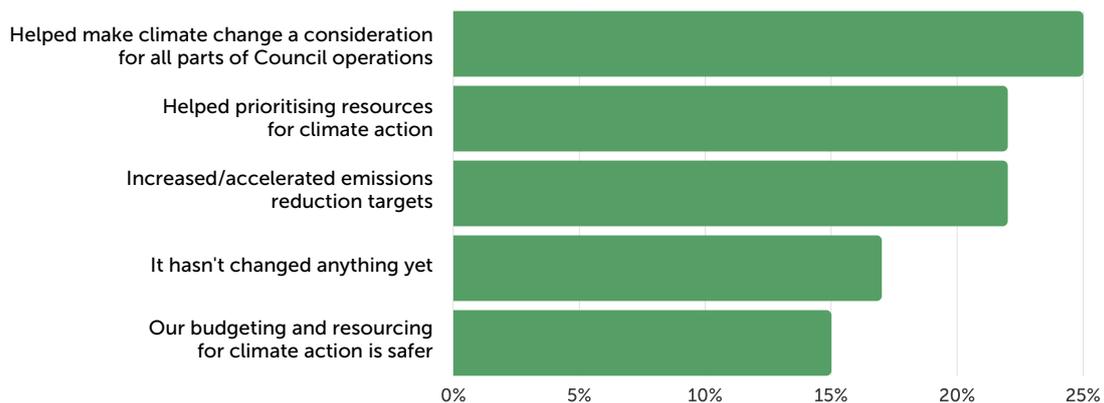
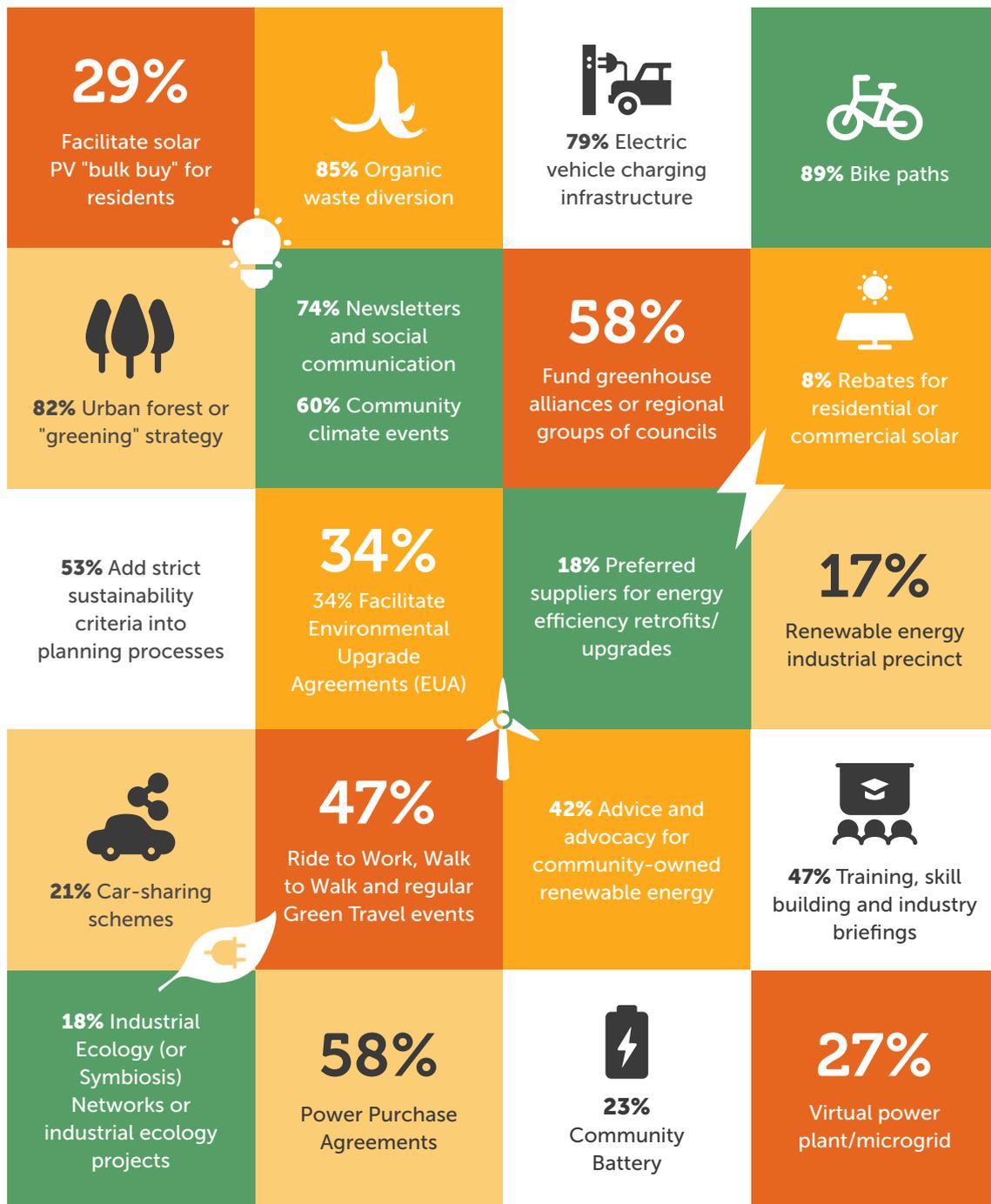


Figure 14: How declaring a climate emergency has changed the way councils is responding to climate change

Actions already implemented by responding councils to reduce community emissions included: installing bike paths (76%), organic waste diversion (66%) and newsletters and social communications

(65%). Less common actions included: creating a renewable energy industrial precinct (2%), virtual power plant/microgrid (3%) and facilitating the creation of a community battery (3%).

Figure 15: Proportion doing/planning to do actions, community emissions



Budgets

The budget for actions reducing community emissions in 2019-20 ranged from \$0 to \$1.3 million, with a median of \$20,000. This included budgets for project planning, delivery, implementation, management, development of strategies, plans or business cases, communication and education, and consultants.

Budgets for reducing community emissions were generally less than those for reducing emissions from council operations. There were also several councils for which the emissions reduction budgets were the same for community emissions and emissions from council operations, indicating some double-counting of initiatives.

The average annual budget for reducing community emissions was below \$100,000 for all states except Victoria and Queensland (Table 8). This is a contrast to budgets for reducing corporate emissions, where New South Wales had by far the highest budget. The total budget for reducing community emissions across Australia was \$3.7 million, with around 7% of Australia's councils represented. While the sample size here is lower than in other areas, the budgets available are not commensurate with the size and scale of the climate challenge.

“ COVID-19 impacted significantly on budget and hence, actions.”

Table 8: Community-wide emissions reduction budgets and response rates by state

Response	# councils answering	% councils represented	Average Budget	Total Budget
New South Wales	8	6%	\$75,750	\$606,000
Northern Territory	1	6%	\$ -	\$ -
Queensland	5	6%	\$280,067	\$1,400,333
South Australia	5	7%	\$4,600	\$23,000
Tasmania	1	3%	\$2,500	\$2,500
Victoria	12	15%	\$135,417	\$1,625,000
Western Australia	4	3%	\$4,500	\$18,000
ACT	0	0%	Not Applicable	Not Applicable
Total	36	7%	\$102,079	\$3,674,833

Barriers

Confidence levels in meeting community emissions reduction targets were low, with 36% of respondents being somewhat confident, no respondents being very confident that the targets would be met,

and 59% being not so confident or not confident at all. The level of confidence in meeting community emissions reduction targets has decreased since the 2018 survey, where half of respondents were

somewhat confident they would meet their targets. The lack of confidence in achieving community targets was largely attributed to a lack of leadership at other levels of government.

Several councils noted that emissions reduction at this scale will require structural changes, for example to electricity generation methods and transport norms (e.g. transition to electric vehicles) that are largely beyond local government control. It was also noted by several councils that achieving community emissions reduction targets will require a significant shift in the behaviour and

practices of the community which will be challenging to drive. An appreciation of this broader challenge was clear in the number of communities wanting councils to focus on advocacy toward state and federal governments.

When looking at the ability of councils to contribute as a stakeholder to reducing community emissions, the key barriers were funding and internal resourcing (Figure 16). This is a change from the last survey, where the key barrier was accessing data. With the introduction of Snapshot, this barrier has largely been removed for councils.

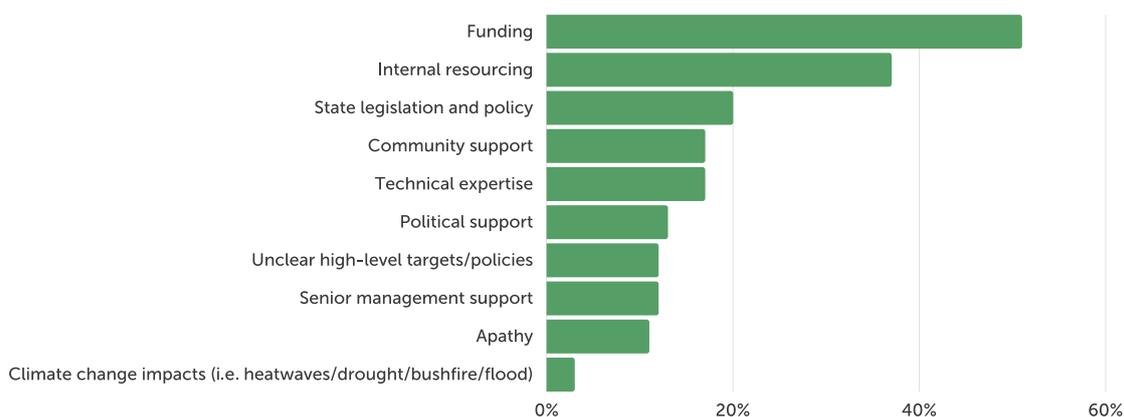


Figure 16: Respondents' top barriers to reducing community emissions

Summary

The majority of councils have used community emissions profiles such as Snapshot in their climate planning work for knowledge building and engagement. The number of councils with a community-wide emissions reduction target or who are intending to set one increased notably since the 2018 survey. The survey suggests that community emissions are becoming an increasingly important element of council climate action strategies as many of the corporate or operational

emissions reductions opportunities have been realised. However, while knowledge around community emissions is growing, councils' confidence in being able to meet emissions reduction targets at the community scale has decreased. The most significant barriers to councils in supporting their community to meet these targets were cited as funding, internal resourcing, and state legislation and policy.

Key findings

- All councils now have a community emissions profile through Snapshot (www.snapshotclimate.com.au).
- Most councils (71%) do not have an additional community emissions profile (other than Snapshot).
- There has been a substantial increase in the proportion of councils with a community-wide emissions reduction target since 2018 (31% in 2021, compared to 18% in 2018).
- The key barrier in setting targets was the lack of direct control that councils have in being able to meet the target.
- A small proportion of the responding councils (20%) had community emissions reductions strategies, plans and/or policies in place, with an additional 39% intending to do so.
- Stationary energy, transport and waste were the most commonly targeted sectors.
- Half of the responding councils had declared a climate emergency, and 83% of those councils reported that making the declaration had had a positive impact on climate action.
- The budget for actions reducing community emissions in 2019-20 ranged from \$0 to \$1.3 million, with a median of \$20,000.

Opportunities and recommendations

- Use [Snapshot](#) to access free profiles of community-wide emissions.
- Continue to set community-wide emissions reduction targets, based on your council's [science derived target and carbon budget available for free via the Science Derived Targets for Australian Local Government Working Group](#).
- Recognise the important role of council in meeting community-wide emissions reduction targets.
- Mobilise the community to advocate to the state and federal government for ambitious targets and supportive policy.
- Include goals and actions in corporate and annual plans with respect to reducing community emissions, renewable energy, adaptation and monitoring and evaluation.
- Provide regular opportunities and support for the community to participate in the development of climate action plans.
- Identify large emitters in your community, and work with them to reduce emissions.
- Facilitate collaboration between key stakeholders in the community emissions space.

Case studies

Cutting Waste Emissions: City of Hobart, Tasmania.

Reducing emissions from waste has long been a challenge for councils around Australia but as councils start setting waste targets that are higher than relevant state targets it's worth learning from the local success stories. The City of Hobart has diverted over 74,000 tonnes of green

waste from landfill over the last decade, cutting thousands of tonnes of methane through airing organic matter. The processing facility also creates a high value compost product that is sold to the public with the support of City of Hobart staff.

Carbon Neutral Adelaide: City of Adelaide, SA.

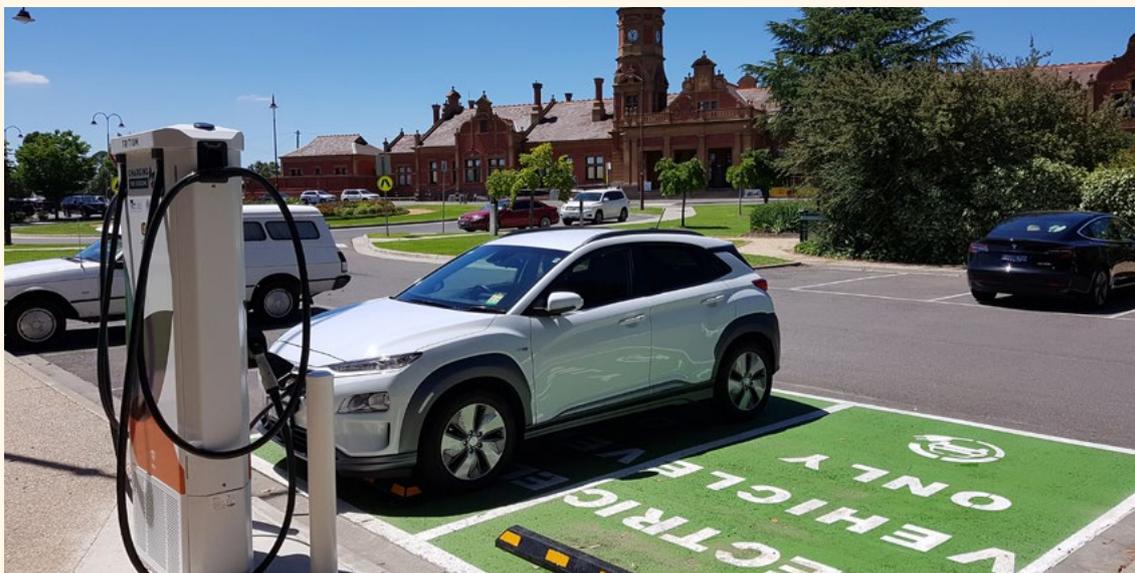
South Australia is already making the transition to a low carbon economy with an aim for the state to have net-zero emissions by 2050 and up to 500% renewable energy generation by 2050. Carbon Neutral Adelaide demonstrates the capacity and capabilities of the South Australian community to adapt and

prosper in a low carbon economy. It is the community's shared ambition to work together and make the City of Adelaide a carbon neutral city – with a partner program across business, government and community sectors demonstrating a level of ambition across sectors.



Image: <https://www.cityofadelaide.com.au/about-adelaide/our-sustainable-city/carbon-neutral-adelaide/>

Charging the Regions



Driving off the major highways into regional Victoria will soon be much easier for electric vehicle (EV) drivers thanks to a new network of electric vehicle charging stations.

The Central Victorian Greenhouse Alliance (CVGA) is working in partnership with regional councils and the Victorian Government to roll out a network of public EV charging infrastructure.

In 2019 the CVGA worked with 55 councils across Victoria to build capacity about the role councils can play in providing public EV charging infrastructure. Since 2020, at least 14 councils are now participating in the roll out of fast chargers on council owned land in small towns and regional cities. 22 chargers across 20 sites will be up and running by August 2021 with more to come over the next year.

The CVGA received funding from the State Government for 6 of the participating councils, whilst the other councils have funded through a combination

of their own budgets and the Federal Government's Local Roads and Community Facilities fund. In addition, the Victorian Government has announced a further \$6M for an additional 50 sites across regional Victoria.



The chargers are already receiving a surprising amount of use despite less than 1% of cars on the road being electric. Over time it's expected that the usage of these stations to increase as more and more EVs hit the road.



Monitoring and evaluation

The majority (69%) of councils have strategies in place to monitor and evaluate actions (or projects) to reduce greenhouse gas emissions for council operations.

As in the last survey, roughly a third of councils monitor throughout a project, with a third only monitoring at the end of projects and another third not monitoring and evaluating projects at all. Around three quarters of councils who undertake monitoring and evaluation use the results to improve project delivery during a project, which is unchanged from the previous survey. It should be noted, however, that only 21 councils (25% of those surveyed) responded to this question and it is based

on high-level monitoring and evaluation of climate mitigation projects, not climate adaptation and resilience.

By contrast, only 26% of councils have strategies in place to monitor and evaluate community emissions reduction actions or projects, which is similar to the last survey.

Almost half of the responding councils felt that their monitoring and evaluation of projects could be improved, compared to just under a third in the last survey. Only 7% of respondents felt their monitoring and evaluation was more than adequate, compared to 18% in 2018.



Climate impacts, risks and adaptation

Overview

This section looks at the way communities and councils are experiencing the impacts of climate change and how they are helping their communities understand and deal with these consequences.

Approaches range from increasing understanding and communicating current and future climate impacts, to taking practical actions to manage these risks.

Discussion of risk also involves discussion of responsibility and accountability which has important political implications.

Community response – climate impacts

96% of community respondents felt climate change had impacted their local community. These impacts included more days of extreme heat or extreme weather, impacts on sport, recreation, education and business, heavier rainfall, Black Saturday and Black Summer bushfires, drought, air quality, shrinking ski season, floods, depletion of soil carbon, rising sea levels, increased summer humidity, more storms, forest stress, agricultural challenges and inundation.

“ Bushfire smoke had a major impact on businesses and health, a major hail storm wrote off 40,000 cars and caused significant damage to buildings, years of drought is killing mature native trees, heatwaves impact people's outdoor activities and health, spring storms exacerbate allergies during pollen season, vegetable & fruit ripening seasons are getting later and fruit withers in heat before it is ready for harvesting.”

29% of community respondents indicated their council had a climate change risk assessment plan or strategy and 48% were working on some climate adaptation initiatives, including raising building energy efficiency standards, flood mapping, stormwater and sewage management and beachfront erosion measures. These measures were not always seen as fit for purpose, being focused on one issue rather than the complex interactions between them.

"We're already 1.2-1.4° hotter. Council are having to invest ratepayers money in expensive flood mitigation works."

"Council is more prepared to take action on adaptation and resilience (shutting the gate) than on mitigation (after the horse has bolted). We are trying to reverse that thinking."

Key concerns for both individuals and community included environment, local employment, extreme weather/ climate, recovery from COVID, health and education.

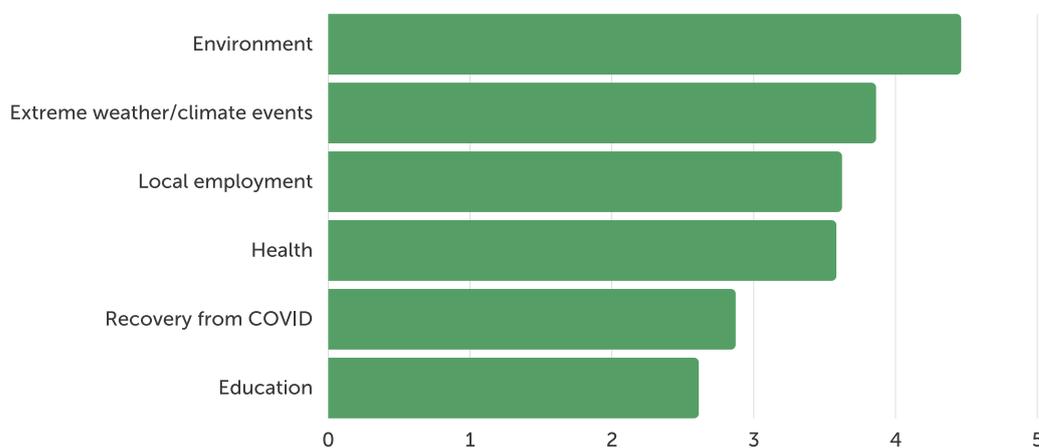


Figure 17: Combined community and individual responses to "Please rank the following key concerns for your community" - highest priority receives highest score.

Council response - climate impacts

The majority of responding councils (83%) reported that climate change has already impacted upon their local community or council operations. Impacts being experienced by councils included increased risk of bushfires, increased flooding, record high temperatures and coastal erosion. The impacts of these climate change events on the local economy, namely agriculture and tourism were also noted. These responses signal

that climate change is not a future concern for councils but rather an immediate one.

While the majority of councils reported experiencing climate change impacts, only 10% felt that the council or the community was well-prepared to respond to these impacts (Figure 18). This is a serious discrepancy and highlights the lack of preparedness to respond to climate impacts.

“Several coastal communities have been damaged by severe storms and inundations, or coastal erosion. There are several examples of rock walls being built by council or by community members in an attempt to hold back the sea.”

“We are experiencing a population explosion and lack of housing as people escape the heat of Perth.”

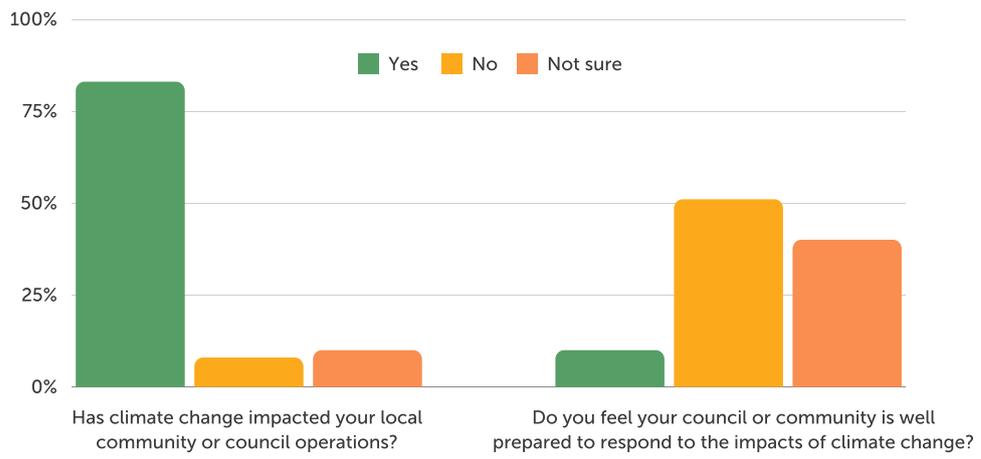


Figure 18: Comparing councils’ experience of climate change impacts to the perception of preparedness

Actions, strategies and plans

More than half of the responding councils (63%) had a climate change risk assessment in place and 74% have implemented (or are currently implementing) climate change adaptation initiatives. Initiatives cited included coastal hazard adaptation, emergency management planning, and water security strategy.

Most of the adaptation plans (56%) were linked to either a state, regional or international processes, although 18% were not. The most common connection was to state processes (27%), with only 11% being linked to international processes or programs. International programs cited by councils included ICLEI Local Governments for Sustainability, C40 Cities Climate Leadership Group, Global

Covenant of Mayors on Climate and Energy (GCoM), UNDRR- Making Cities Resilient 2030, UN-Habitat, ISO 31000 Risk Management Guidelines and many others at the local level.

Almost half (45%) of the adaptation plans were linked to a climate mitigation or a greenhouse gas reduction plan or strategy, which was a modest increase compared to the 2018 survey (40%). A large proportion (43%) of responding councils continue to manage climate change adaptation and mitigation as discrete plans, some noting that the two separate plans are linked under an umbrella climate change strategy.

Developing climate risk assessments, prioritising mitigation actions, and developing climate change adaptation strategies were cited as the top three areas where councils would like greater assistance.

“ There is a significant amount of work still needed to educate regional council staff and regional communities about climate risk. We need to get everyone on the same page and be transparent about why specific adaptation and carbon mitigation projects are essential to mitigate the most significant climate risks identified for our communities. Detailed corporate (council) and community level climate risk assessments are still missing across the board and their absence will remain a significant barrier to scaling up action at all levels.”

Responsibility and accountability

The majority of councils felt that local government had a very important role to play in meeting global climate targets. However, only 2% of responding councils felt that the local government contribution to the climate challenge was adequately recognised by the federal government. Perception of state governments was

notably more favourable, with 51% feeling that councils received adequate recognition for their efforts. Councils’ perception of community recognition was more uncertain with 19% unsure how the community views council’s contributions to the climate change challenge.

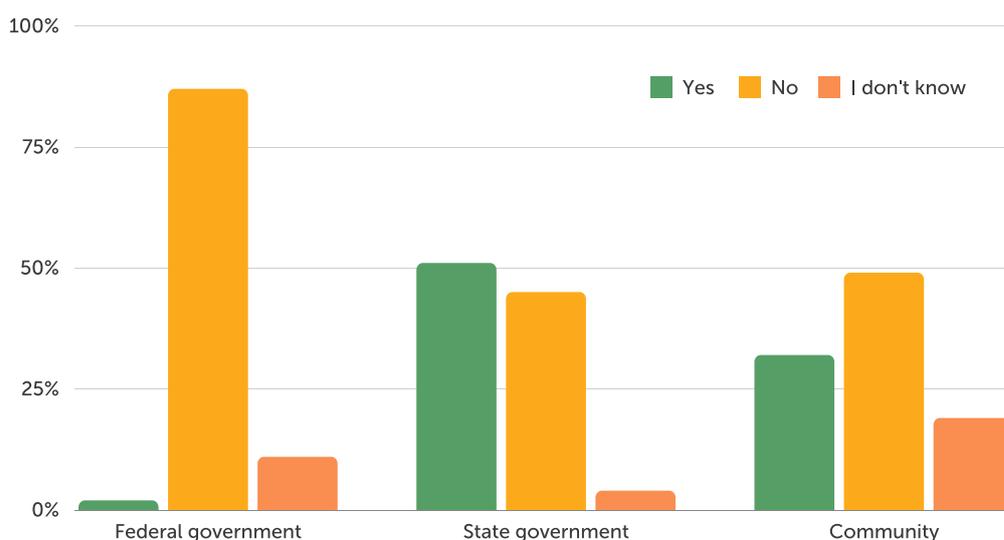


Figure 19: Recognition of local government contributions to the climate challenge.

The federal government was cited as the entity responding councils felt should be most responsible for covering the costs of climate change impacts. The state government and the fossil fuel industry were also seen to have a very high level of responsibility for supporting communities in adapting to climate change.

Looking towards solutions, 75% of respondents reported that they would support a levy on fossil fuel exports as a means to create a climate disaster fund. In addition, 31% of councils reported having a fossil fuel divestment commitment or intended to implement a commitment shortly.

Summary

While many programs rightly focus on lowering emissions, understanding climate risks and adapting to a changing climate are also essential roles for local councils. Support programs and resources on climate resilience exist and are a key focus at local, state and regional levels while there are many supporting approaches globally at the local level.

There is a big discrepancy between councils' experience of climate change impacts within their communities and their

preparedness to respond to these impacts. This is a notable risk for councils and for the communities they serve. However, while the impacts of climate change are felt locally, this is not a local issue. In order to properly respond to the impacts of a changing climate, councils will need additional support. The results of this survey suggest that respondents believe the federal government, fossil fuel industry, and state government should be the key entities providing financial support for climate change adaptation.

Key findings

- The majority of responding councils (83%) reported that climate change has already impacted upon their local community or council operations.
- Only 10% felt that their council or the community was well-prepared to respond to these impacts.
- Well over half of the responding councils (63%) had a climate change risk assessment in place and 74% have implemented (or are currently implementing) climate change adaptation initiatives.
- The majority of respondents felt that local government had an important role to play in meeting global climate targets, but most respondents felt that the local government contribution to the climate challenge was inadequately recognised.
- Almost a third of councils reported having a fossil fuel divestment commitment or intended to implement a commitment shortly.



Opportunities and recommendations

- Recognise the important role of councils in developing a climate change resilient community.
- Recognise the need for support from other levels of government, and the community.
- Advocate to the state and federal government for more effective support in managing climate change risks and impacts.
- Conduct climate change risk assessments and develop an appropriate adaptation strategy.
- Have honest conversations with the community about climate risks and the potential of property being uninsurable in some areas.
- Implement monitoring and evaluation of climate change risks, impacts, and adaptation approaches to ensure climate change impacts are measured and responses are effective.
- Include goals and actions in corporate and annual plans with respect to adaptation and monitoring and evaluation of climate change risks.
- Continue to, or initiate collaboration at the local, regional, national or international levels to access greater support, leverage and knowledge sharing.

Place-based case studies

Hunter

The Hunter is set to become the electric motor of the Australian economy.

For 200 years, the Hunter region of New South Wales has been a powerhouse of Australian mining and energy exports. In fact, Australia's first export commodity left from the Port of Newcastle as a shipment of coal bound for India in 1799. The region is also well known for manufacturing, and energy-intensive industries such as aluminium and steel.

The Hunter is now writing a new chapter in this proud history as an industrial and energy superpower. There is a quiet revolution happening in the Hunter, characterised by innovation, cleantech, adaptation, collaboration, battery manufacturing and retrofits, electric vehicles, hydrogen cells, niche wind solutions, and some of Australia's biggest industrial-scale use of renewable energy.



Bayside City Council: Comprehensive Climate Emergency Action Planning

In December 2019, Bayside City Council in Victoria declared a Climate Emergency. Council responded swiftly following a petition from the community requesting that Council declare a Climate Emergency and develop a [Climate Emergency Action Plan](#). Through its declaration and commitment, Council recognised that climate change is causing significant

damage to our economy, society and environment, and that urgent action is required to reverse current trends and quickly adapt to the already changing climate. Bayside's approach is a great example of the level of ambition required and working across the community to inform and support the development of the plan.

Ballarat – Tackling industrial emissions in regional areas

Beyond Zero Emissions partnered with the Committee for Ballarat and the social impact and strategic giving team at the National Australia Bank (NAB) to investigate options to reduce industrial emissions in Ballarat. The Snapshot Climate emissions profile for Ballarat shows that industrial electricity use makes up the majority of Ballarat's total emissions (~29%). Coupled with the fact that focusing on industry would decrease the number of decision makers but increase potential impact, the project was scoped to be a deep dive into opportunities for Ballarat's key industries to reduce emissions.

The Committee for Ballarat brought together 10 stakeholders including local council, most of Ballarat's largest industrial emitters, as well as the local water authority and university and provided energy consumption data and connections with key community members.

A range of challenges and opportunities were evident for the region with a collaborative approach to decarbonisation recommended. The project helped to:

- Fast-track collaboration and information sharing amongst the committee's members.
- Determine energy costs for the community of Ballarat (~\$250million per year).

It also:

- Used Snapshot data to model costs associated with electricity and gas usage.
- Prompted the Committee to pursue further feasibility studies.
- Created stakeholder templates.
- Provided insight into the different financial models that are needed to get projects off the ground.



Gladstone

Gladstone is a town with manufacturing at its heart. It has a long history as an industrial powerhouse, based on the export of coal, aluminium and alumina, sulfuric acid, and meat products, enabled by a world-class, deep water port. In recent years Gladstone has diversified to become one of the largest LNG export ports. Gladstone is protecting its industrial heritage by diversifying its energy supply, drawing on abundant wind and solar resources in the Central Queensland region. In fact, the region is playing a starring role in Australia's ambition to become a renewable energy superpower.

Alumina refining at [Queensland Alumina Limited](#) (QAL) and [Yarwun Alumina Refinery](#) have the potential to be powered by green hydrogen, with a consistent low price for firm, reliable renewable energy providing long term cost savings for the [Boyne smelter](#).

The [Port of Gladstone](#), [Cement Australia](#) and the [Orica Australia](#) chemical processing complex are other flagship industries in Gladstone with potential to

benefit from increased access to affordable, renewable energy including electricity and green hydrogen.

Construction of the [Alpha HPA](#) high purity aluminium complex is scheduled to commence in 2022. There are at least six different green hydrogen and green chemical projects proposed for Gladstone with the most recent announcement being [Sumitomo Corporation's](#) appointment of JGC for the Front End Engineering and Design (FEED) contract for the first phase of their project.

With gigawatts of new clean energy projects projected to be needed to support Gladstone's existing heavy industry operations, significant opportunities also exist for the development of new supply chain industries in and around Gladstone, including battery component manufacture and steel wind tower fabrication, creating further new opportunities for economic diversification and job creation.



Renewable Energy Industrial Precincts

Renewable Energy Industrial Precincts support a cluster of manufacturers powered by 100% renewable energy. Australia has always relied on a competitive advantage of affordable and reliable energy but today our intensive manufacturers are at a global disadvantage due to high energy prices. We need to capture the benefits of cheaper renewable power and to capitalise on the opportunity to produce low-carbon products that are increasingly in demand in Australia and internationally. Australia has some of the best and most abundant renewable resources in the world, and this can give Australia's manufacturers a global edge.

Renewable Energy Industrial Precincts are either located within Renewable Energy Zones or connected to renewable energy generation through high voltage transmission lines. They also have access

to clean heat and renewable hydrogen production and infrastructure. Renewable Energy Industrial Precincts have the potential to accelerate the growth of manufacturing in Australia.

Some of Australia's most exciting and innovative manufacturing and technology companies have already given support for Renewable Energy Industrial Precincts.

"We are strongly in support of Renewable Energy Industrial Precincts. We believe these are ideal vehicles to help engage and educate communities, demonstrate early success and to respond to and address the significant challenges ahead of us especially in the waste circular economy and to achieve net-zero emissions targets for Australia"

Mukul Agrawal – Endeavour

National home improvement scheme

A national program of home energy retrofits can create jobs and reduce energy bills for ordinary Australians.

A national home improvement scheme is an ideal opportunity for the Federal Government to leverage private capital and deliver thousands of jobs. Beyond Zero Emissions research shows that thousands of jobs will be created in delivering simple energy improvements to Australian homes that will save Australian families thousands of dollars in utility costs.

Many Australians live in inefficient homes which means much of the energy they buy is wasted. With a few simple efficiency measures and appliance upgrades, most households could reduce their energy bills. With the addition of solar panels, many homes could even produce as much energy as they use over the course of a year.

Energy efficient homes are not just cheaper to run, but are healthier and more comfortable, especially in summer and winter. The speed with which Australians have adopted rooftop solar suggests a national retrofit scheme is likely to be extremely popular.

A national retrofit scheme could create many thousands of new jobs, offsetting COVID-19 related job losses in the construction sector. It is also an opportunity to train thousands of workers in the skills needed for the 21st century building sector. Thousands more jobs could be created in training, auditing and in domestic manufacturing of appliances and materials.

State and federal government

Overview

This chapter provides an analysis of the desktop review of all Australian local government information on publicly available state and federal policies,

emissions inventories and on survey responses relevant to community, local, state and federal government responses to climate change.

Results

Emissions inventories

The federal government provides a summary of national and state and territory greenhouse gas emissions inventories through the Department of Industry, Science, Energy and Resources. The 2019 annual inventory shows QLD has the highest total emissions, followed closely by NSW, VIC and WA. The inventories of SA, NT, TAS and ACT are small either due to low population, higher renewable energy penetration and/or targeted policies to address emissions.

The energy sector is generally the main source of state emissions, with the notable

exception of ACT and Tasmania, which are both using 100%+ renewable energy supply.

All states and territories other than QLD and NT have negative emissions in the Land Use, Land-Use Change and Forestry category.

Agriculture makes up a significant proportion of emissions in NSW, QLD, VIC and WA. Transport emissions are included in the energy total.

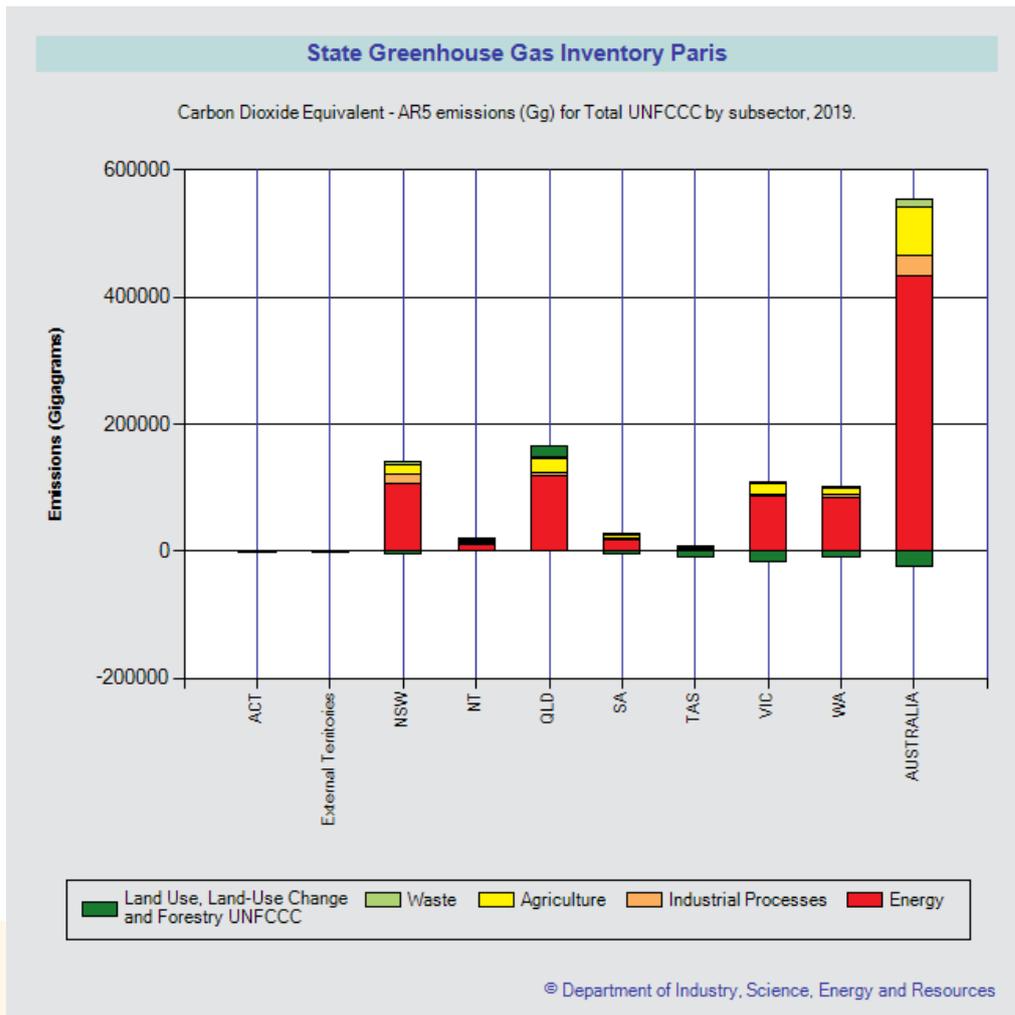
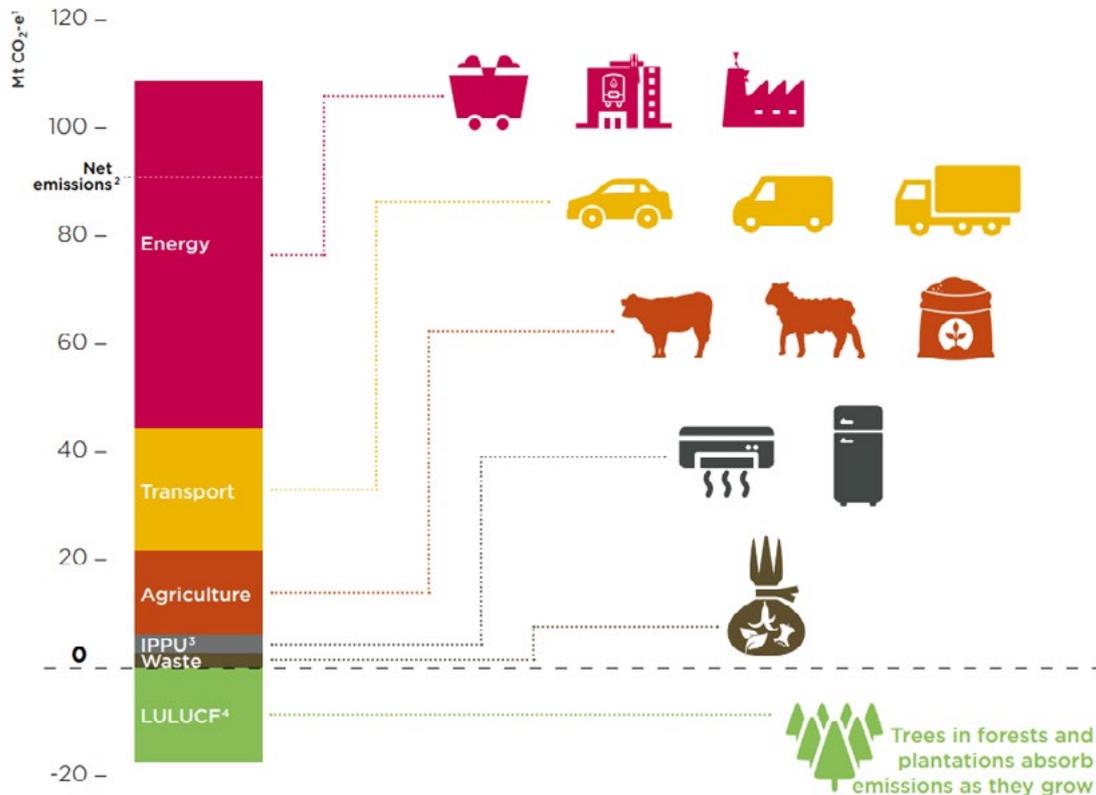


Figure 20: State greenhouse gas inventories, source: <https://ageis.climatechange.gov.au/sggi.aspx>

The department also provides an annual report outlining state and territory emissions. The [most recent was published in May 2020 with 2018 data.](#)

State and territory governments also provide annual updates to their emissions profiles, reporting through various state government departments. These are presented in different formats with differing levels of detail. For example, the following Victorian 2019 profile representation.



Victoria's greenhouse gas emissions by emissions sector in 2019

- ¹ Million tonnes of carbon dioxide equivalent emissions
- ² Victoria's net emissions are total emissions less the emissions absorbed in the LULUCF sector
- ³ Industrial processes and product use
- ⁴ Land use, land use change and forestry

Figure 21: Victoria's greenhouse gas emissions by sector in 2019, source: <https://www.climatechange.vic.gov.au/victorias-greenhouse-gas-emissions>

State summary – council websites

The desktop review of council websites is summarised in Figure 22. The national average is represented by the dark blue line. Victorian councils are well above the national average in all responses. For example, 87% of Victorian council websites

provide information addressing climate change issues compared to 29% and 12% of Queensland and Northern Territory councils respectively. These results are comparable to the previous review conducted in 2017.

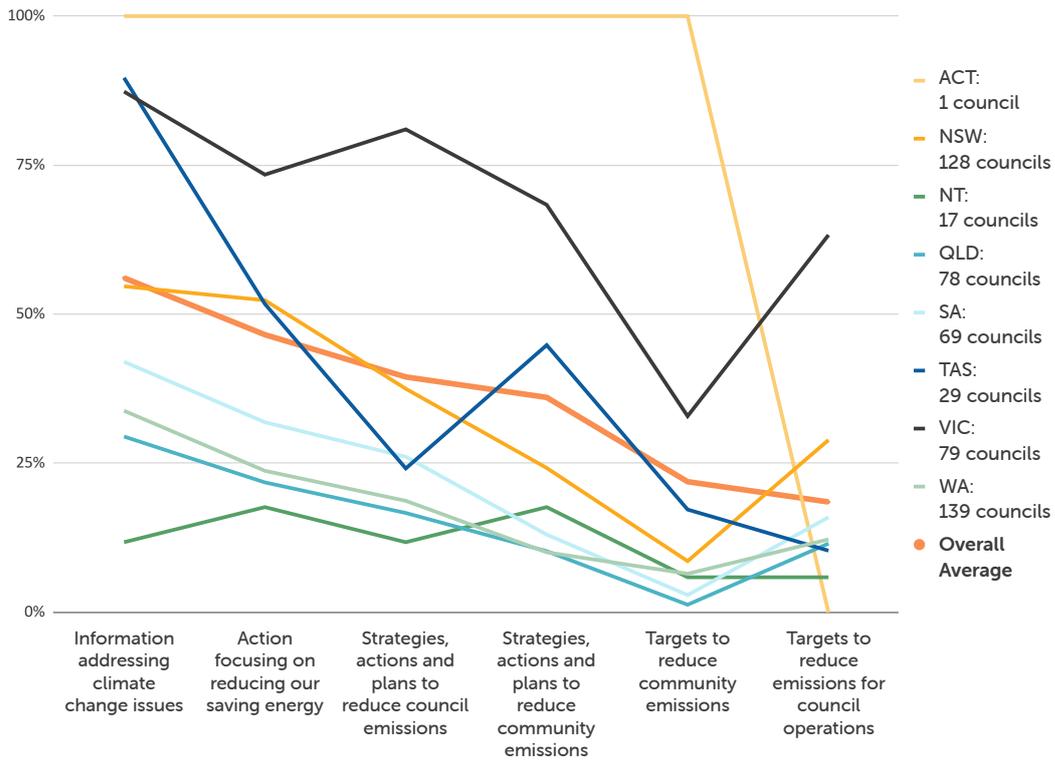


Figure 22: Summary of desktop review of council websites

Collaboration

International and regional alliances

There are numerous opportunities for and examples of collaboration regionally and internationally on city focussed climate programs and advocacy. The views of local government into global climate change discussions and frameworks, like the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement, are coordinated through the Local Governments and Municipal Authorities (LGMA) Global Taskforce, bringing together major international networks of local governments for joint advocacy work.

Similarly, there are city networks that operate globally, regionally and nationally focussed climate action programs. In Australia the networks with a global reach include C40 Cities, ICLEI – Local Governments for Sustainability and Global Covenant of Mayors (GCoM) for Climate and Energy.

The survey results show that international climate programs were, on average, rated as moderately valuable to councils. While international programs were an element of many council climate change plans, partnerships with local government alliances at the regional level were the most common collaboration approach. Partnerships with community groups and

non-governmental organisations were also prevalent.

In terms of collaboration with community groups, 47% of respondents felt that their council supports local leaders working in the climate space. This support is largely through support in kind and access to grants.

Local, state and federal climate change response

Survey respondents were asked what they thought of the climate change response from local business and industries, local government, state government and federal government.

Community group responses were generally evenly spread in the somewhat negative to somewhat positive range, trending towards more positive for state

government, more negative for local government and neutral for local business and industries. A clear outlier of the results was the federal government, for which 97% of respondents rated as very negative and 100% rated a negative or somewhat negative response.

Individual responses followed similar trends with 73% of respondents rating a very negative and 12% a somewhat negative response to the federal government's approach. There were more positive findings for state and local government and local business and industry.

When asked which groups should bear responsibility for covering the costs of climate change, 92% of respondents believed the federal government (28%) and the fossil fuel industry (64%) were most accountable. Almost all community respondents (96%) supported a levy on fossil fuels exports to create a climate disaster fund.

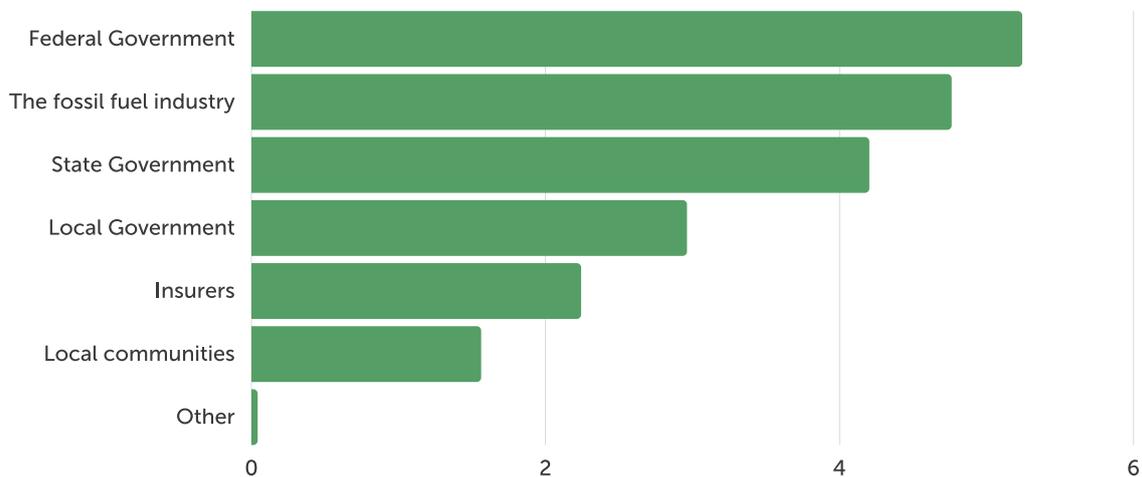


Figure 23: Community responses to “Please rank in order who you feel should be most responsible to cover costs of climate impacts” – highest priority receives highest score.

State climate targets and policy overview

Table 9: Overview table

States and Territories	Target	Interim targets	Policy	Key plans	Declared state of climate emergency	Renewables
ACT	Net Zero Emissions by 2045 (Legislated)	50-60% reduction in emissions (from 1990 levels) by 2025 65-75% reduction in emissions (from 1990 levels) by 2030 90-95% reduction in emissions (from 1990 levels) by 2040	Climate change Strategy 2019-2025	Climate change and Greenhouse gas reduction Act 2010 (revised 2018)	Yes	In 2020, ACT was powered by 100% renewables – only produced 5% of its needs, buying renewable energy for every watt of non-renewable energy used
VIC	Net Zero Emissions by 2050 (Legislated) 50% renewable energy by 2030	28-33% reduction in emissions (from 2005 levels) by 2025 45-50% reduction in emissions (from 2005 levels) by 2030 50% renewable energy by 2030	Climate change Act 2017	Victoria's Climate Change Strategy Victorian Renewable Energy Target Victorian Energy Upgrades (still under the Victorian Energy Efficiency Target Act 2007)	No	In 2020, 26% of energy was generated by renewable sources
NSW	Net Zero Emissions by 2050 Does not have state-specific renewable energy target	No interim target but the <i>Net Zero Plan Stage 1</i> forecasts state emissions reduction of 35% by 2030.	Climate Change Policy Framework	Net Zero Plan Stage 1: 2020-2030 NSW Climate Change fund	No	In 2020, 16% of energy was generated by renewable sources

States and Territories	Target	Interim targets	Policy	Key plans	Declared state of climate emergency	Renewables
WA	Net Zero Emissions by 2050 Does not have state-specific renewable energy target	Committed to working with the Australian Government interim target of 26-28% reduction below 2005 levels.	Climate Policy	Clean Energy Future Fund	No	In 2020, 8% of total state energy was generated by renewable sources. South West Interconnector System (SWIS) has 16% generated by renewable resources.
QLD	Net Zero Emissions by 2050 50% renewable energy by 2030	30% reduction in emissions (from 2005 levels) by 2030	Climate Change Response	Climate Transition Strategy Climate Adaptation Strategy	No	As of January 2021, 20% of electricity is generated by renewable sources.
SA	Net Zero Emissions by 2050 100% renewables by 2030	50% reduction in emissions by 2030	Directions for a Climate Smart South Australia	Climate Change Action plan (2021-2025)	Partial	In 2020, SA sourced 60% of its energy from renewables.
TAS	Net Zero Emissions by 2050 200% renewables by 2040	150% renewable energy by 2030	Climate Change Action Plan	The draft Tasmanian Renewable Energy Action Plan 2020	No	Powered by 100% renewables – hydropower, solar and geothermal in Tasmania.
NT	Net Zero Emissions by 2050 50% renewable energy by 2030	N/A	Climate Change Response: Towards 2050	Roadmap to Renewables Three year action plan Hydrogen Strategy	No	N/A

Table 10: Climate policy and key actions overview for each state

States and Territories	Policy	Key Actions	Additional plans
ACT	Climate change Strategy 2019-2025	<ul style="list-style-type: none"> ● Community leadership and just transition ● ACT Government leadership ● Waste avoidance and management ● Energy, buildings and urban development ● Land use and biodiversity ● Industry development and innovation ● Increasing ambition 	Climate Change and Greenhouse Gas Reduction Act 2010 (revised 2018)
VIC	Victoria's Climate Change Strategy	<p>A clean energy economy</p> <ul style="list-style-type: none"> ● Transformation of the electricity system with renewable energy ● Building greener homes and buildings ● Expanding skills and jobs for Victorians <p>Innovation for the future</p> <ul style="list-style-type: none"> ● Next-generation energy, including batteries and offshore wind power ● Decarbonising gas use – including switching to electricity and developing the renewable hydrogen industry ● Transitioning to more zero emissions vehicles <p>Resilient farms and forests</p> <ul style="list-style-type: none"> ● Revitalising and protecting our lands and forests ● Researching and piloting new solutions for agriculture ● Farmers to take up new technologies and practices that reduce emissions <p>Climate smart businesses and communities</p> <ul style="list-style-type: none"> ● Energy efficiency and productivity for businesses ● Lower emissions from waste and the creation of a circular economy ● Community investment in renewable energy ● Improvements to public transport and cycling and walking paths <p>A climate resilient Victoria</p> <ul style="list-style-type: none"> ● Efforts to address current climate change impacts ● Reduced barriers to adaptation ● The laying of foundations for transformational adaptation 	<p>Victorian Renewable Energy Target</p> <p>Victorian Energy Upgrades (still under the Victorian Energy Efficiency Target Act 2007)</p>

States and Territories	Policy	Key Actions	Additional plans
NSW	Climate Change Policy Framework	<ul style="list-style-type: none"> ● Create a certain investment environment by working with the Commonwealth to manage transition ● Boost energy productivity, put downward pressure on household and business energy bills ● Capture co-benefits and manage unintended impacts of external policies ● Take advantage of opportunities to grow new industries in NSW ● Reduce risks and damage to public and private assets in NSW arising from climate change ● Reduce climate change impacts on health and wellbeing ● Manage impacts on natural resources, ecosystems and communities 	<p>Net Zero Plan</p> <p>NSW Climate Change fund</p>
WA	Climate Policy	<ul style="list-style-type: none"> ● Clean manufacturing and future industries ● Transforming energy generation and use ● Storing carbon and caring for our landscapes ● Lower-carbon transport ● Resilient cities and regions ● Government leadership 	Clean Energy Future Fund
QLD	Climate Change Response	<ul style="list-style-type: none"> ● Building resilience ● Encouraging innovation and transitioning to low and zero carbon technologies ● Leading by example – reducing emissions from government operations ● Working with our regional communities ● Energy ● Manufacturing ● Transport ● Land and Agriculture ● Built environment ● Tourism ● Skill Queenslanders for new economy jobs 	<p>Climate Transition Strategy</p> <p>Climate Adaptation Strategy</p>
SA	Directions for a Climate Smart South Australia	<p>Unlock innovation and economic opportunity</p> <ul style="list-style-type: none"> ● Support development of low emissions and climate smart industries and services <p>Reduce net emissions</p> <ul style="list-style-type: none"> ● Transition to a low emission economy <p>Build resilience and adapt</p> <ul style="list-style-type: none"> ● Support communities, industries, businesses and the environment to manage risk, harness opportunities, adapt and build resilience to climate change <p>Provide accessible information</p> <ul style="list-style-type: none"> ● To allow for the community to build capacity to respond to climate related risk and opportunity <p>Government leading by example</p>	Climate Change Action plan

States and Territories	Policy	Key Actions	Additional plans
TAS	Climate Change Action Plan	<ul style="list-style-type: none"> ● Understanding Tasmania's future climate ● Advancing our renewable energy capability ● Reduce our transport emissions ● Growing a climate-ready economy ● Building climate resilience ● Supporting community action 	The draft Tasmanian Renewable Energy Action Plan 2020
NT	Climate Change Response: Towards 2050	<p>Net-zero emissions by 2050</p> <ul style="list-style-type: none"> ● Investing in renewable energy ● Promoting energy efficiency ● Supporting the transition to electric vehicles <p>A resilient territory</p> <ul style="list-style-type: none"> ● Improving our urban design ● Supporting land managers to adapt to climate change ● Responding to risks from heat and extreme weather <p>Opportunities from a low carbon future</p> <ul style="list-style-type: none"> ● Making the best use of our natural assets ● Building our manufacturing and export industries ● Growing our carbon farming industry <p>Inform and involve all territorians</p> <ul style="list-style-type: none"> ● Making sustainable choices ● Understanding the risks ● Delivering the response 	Roadmap to Renewables Three year action plan Hydrogen Strategy

Australian Capital Territory

The ACT Government's Climate Change Strategy 2019 to 2025 and the Climate Change and Greenhouse Gas Reduction Act 2010 boasts some of the most ambitious targets in Australia. The Act also provides monitoring and reporting to meet targets and facilitate government and private sector action. The ACT government has since met both of its 2020 renewable energy targets, with future goals focusing on increased renewable energy generation, specifically hydropower, and net-zero emissions targets.

Victoria

The Climate Change Act is the legislation whereby all of Victoria's current suite of climate policies and strategies are based. The Act requires a state-wide climate change strategy, adaptation action plans and interim emissions reduction targets to be developed and updated every five years until 2050.

There are now clear legislative and community expectations that Council Plans address climate change via the Local Government Act. The integrated strategic planning process outlined in the Local Government Act 2020 lends itself to the approach of embedding climate change across everything a council does, including a Council Plan. This recognises that climate change is already impacting the community's well being, natural and built

environments, and local economy. [The Northern Alliance for Greenhouse Action \(NAGA\) has developed a guide to explain what this means.](#)

New South Wales

In March of 2020 NSW Government released their Net Zero Plan Stage 1: 2020-2030, which depicts how they will deliver their emissions target of a reduction of 35% by 2030 compared to 2005 levels. Under this plan, in conjunction with the government's Electricity strategy and Electricity Infrastructure Roadmap, Renewable Energy Zones (REZ) were determined. REZs will be used to replace energy produced by previous power stations as they end their operational period. The government has not created a new renewable energy target after meeting their 2020 target.

Western Australia

WA's Government has committed to achieving net-zero emissions by 2050. WA does not have a state specific renewable energy target but in 2019 renewable energy accounted for 20% of electricity generated in the state. In March 2019, the government launched the Energy Transformation Strategy, which looks to secure a reliable and affordable electricity supply, along with favouring renewable energy and retiring coal-fired power plants.

Queensland

In 2017, the Queensland Government released their Climate Transition Strategy to support net-zero emissions by 2050 with an interim goal of reducing emissions by 30% by 2030 based on 2005 levels. Also released in 2017 was the Powering

Queensland plan whereby the government committed to a renewable energy target of 50% by 2030. Queensland has the highest number of rooftop solar installations in the world. Currently under review are Queensland energy laws, with a decision paper under development.

South Australia

South Australia has a net-zero emissions by 2050 target and the state has firmly embraced the new energy transition, setting plans for 100% renewable electricity by 2030, 50% renewables by 2025 (already meeting this target by reaching 60% by 2020). The government has stated that renewables could generate 500% of the state's energy needs by 2050, with the surplus exported nationally and internationally. Under the Climate Change Act, the government has an arrangement with the City of Adelaide adopting a Carbon Neutral Strategy 2015-2025, to become the world's first carbon neutral city. South Australia no longer relies on coal as an energy source.

Tasmania

Tasmania is now powered by 100% renewables through hydropower, solar and geothermal. In October 2020 the Tasmanian Government introduced a Bill to legislate a new target of 200% renewable electricity generation by 2040, unmatched globally. Tasmania is also the first and only jurisdiction in Australia to achieve zero net emissions, and it has also met this commitment of [net-zero emissions 4 years in a row.](#)

Northern Territory

The NT government released its, "Northern Territory: Climate Change Response: Towards 2050" in July 2020. In addition to their Three Year Plan, also released in July 2020, the response contains 34 deliverables and 17 priorities to be achieved by the end of 2023. In 2016 the government adopted a 50% renewable

energy target by 2030, which led to the approval of its first large scale solar project in 2018. In addition, in 2020 a Hydrogen Strategy was released with the aim of the NT becoming a world leader in renewable hydrogen technology research, production and manufacturing.

Federal government

In November 2016, Australia ratified the Paris Agreement with a target to reduce emissions by 26 to 28 per cent below 2005 levels by 2030. In Feb 2021 Prime Minister Scott Morrison said the nation should get to net-zero "as soon as possible", and preferably by 2050. At the 2021 Leaders summit on Climate, Australia reaffirmed its 2030 target, but with no commitment to reach net-zero emissions by 2050. The summit showcased Australia's commitment

to new technological solutions including hydrogen and carbon capture. The US, Europe and Asia are moving rapidly to shift to a net-zero economy and international pressure on Australia will continue. There are many opportunities for Federal Government stimulus measures that simultaneously address climate change, strengthen the economy and create jobs.

Table 11: Federal Government climate change targets and policies

Plans and targets	Policies
<ul style="list-style-type: none"> ● Paris Agreement to reduce emissions by 26 to 28 per cent below 2005 levels by 2030 ● Large-scale Renewable Energy target to increase renewable energy by 33,000 gigawatt hours by 2030 ● Improving energy productivity by 40 per cent by 2030 	<ul style="list-style-type: none"> ● Emissions Reduction Fund (existing) - the centerpiece of the current government's policies regarding greenhouse gas emissions reduction ● Emissions Reduction Fund and Safeguard Mechanism (post-2020) ● National Energy Productivity Plan (energy and vehicle efficiency)

Recommendations

It is clear councils and communities play a significant role in the race to reduce emissions to maintain a safe climate. State governments need to engage closely with councils and communities and reflect the level of ambition required to tackle the causes and impacts of climate change.

This means responses commensurate with the challenge, including targets based on the science and plans to reach net-zero emissions within the next 15 years as articulated in the [Climate Council's Aim High, Go Fast report](#). Federally, the Australian government has ratified the Paris Agreement but has yet to announce a net-zero target or scale up ambition to meet global expectations for its nationally determined contribution.

All levels of government and the community need to be actively involved in a well articulated, measurable and properly resourced response. A nationally coherent approach that engages all levels of government and community ambition is required to meet the Paris Agreement.

Everyone can play their part. Based on the review findings, the following recommendations are provided for community, councils, local government groups and associations and state, territory and federal governments.

As councils and communities are becoming more sophisticated with their climate action planning there's a recognition that there are no "one size fits all" projects. Many of these recommendations depend on the council type (metropolitan, regional, rural), state or territory policies and a plethora of other important factors. This list here should be used as a guide only, recognising that every council, community and state is unique.

Community

- Gather groups interested in zero emissions to discuss goals for your community - initiate conversations, attend workshops and join a committee.
- Meet with council staff and Councillors to share goals and identify common ground
- Call for strong action to reduce emissions and set a community-wide target
- Refer to the [Zero Carbon Community guide](#)
- Share your [Snapshot](#) emissions profile with local decision makers
- Share your community-wide emissions reduction targets, based on your council's [science derived target and carbon budget](#).
- Identify key local energy users and discuss cost effective solutions to reduce emissions
- Ask your council to join campaigns like the Cities Power Partnership and the Global Covenant of Mayors
- Show state and federal government representatives your vision for a Zero Carbon Community and ask for leadership to enable its development

Council – corporate emissions

- Start or continue to set ambitious targets to reduce corporate emissions (ie zero by 2025)
- Apply a climate lens to all decisions, consistent with the meaning of a climate emergency and commensurate with the challenge
- Plan and deliver Power Purchase Agreements (PPAs) borrowing from models already successfully completed in most Australian states or switch to 100% renewable energy through large council-owned and operated renewable energy projects
- Maintain a corporate emissions inventory to track progress but don't let this stop you from implementing projects that will reduce emissions and energy costs
- Collaborate with regional alliances to leverage opportunities, efficiencies and economies of scale
- Improve access to green space and infrastructure for active travel modes
- Ensure procurement policies, tenders and suppliers report on climate change targets
- Replicate the Victorian regional greenhouse alliance model as has been recently adopted in Queensland and Western Australia
- Include emissions targets in procurement and investment processes

Council – community emissions

- Provide leadership through community engagement and advocacy
- Demonstrate the co-benefits of actions to decision makers
- Work collaboratively with Traditional Owners on truth-telling and local climate issues and opportunities
- Set community-wide emissions reduction targets (net-zero by 2035 or science derived target)
- Integrate climate change into all existing plans, strategies and policies, for example public health and well being, open space, recreation, parking, transport and planning
- Facilitate the planning and construction of electric vehicle charging infrastructure by working with developers, owners of charging infrastructure and distribution businesses
- Improve monitoring and evaluation frameworks to assess effectiveness of actions
- Share the [Snapshot](#) emissions profile with community and local decision makers
- Deliver and facilitate Power Purchase Agreements (PPAs) across council and the broader municipality and support large-scale renewable energy projects
- Work with state government to ensure strict sustainability criteria are incorporated into planning processes by working regionally and through alliances or local government associations
- Sign up to local, national or international programs like the Cities Power Partnership, Climate Emergency Australia and the Global Covenant of Mayors
- Work with waste management stakeholders and regional council groupings to ensure organic waste diversion at the municipal wide
- Provide residents and businesses with information to support local actions
- Provide regular opportunities for community to participate/codesign the development of climate actions and strategies
- Partner with Chambers of Commerce or local committees to support the low carbon economy
- Designate low carbon enterprise zones and provide infrastructure for low carbon growth and electric vehicles
- Collaborate with community energy providers to enable development schemes with local economic benefits
- Ensure vulnerable and disadvantaged people are consulted and given appropriate support and access to transport, key services and green spaces
- Facilitate coordinated action and decision making including emergency services, energy distributors, local industries and community groups.
- Develop local climate risk and resilience plans

Local government associations and city networks

- Provide resources and coordination for local councils to share effective climate actions like the [templates and tools provided by the Western Australian Local Government Association \(WALGA\)](#)
- Support local government and community advocacy for state and federal policies to enable targets to be achieved
- Provide recognition and reward to leading councils like the [Excellence in the Environment Awards by Local Government NSW](#)
- Collaborate with employment agencies to raise awareness and opportunity of low carbon jobs
- Advocate to state planning department to ensure homes and business are built or retrofitted to increase energy efficiency, improve comfort and access to local transport options

State and territory governments

- Legislate emissions reductions targets in line with science based targets
- Support communities and councils to access annually updated community emissions profiles
- Significantly increase funding and resourcing for climate adaptation and resilience and support for monitoring and evaluation of climate adaptation projects
- Improve building standards for zero emissions homes
- Increase certainty for investors to enable long-term emissions reduction investments
- Support programs sharing technical and engagement expertise and resources between councils, community, business and industry
- Support councils with information and resources they can distribute and share with their communities
- Build 1.5°C-2.0°C targets into Local Government Acts
- Support and accelerate renewable energy targets
- Provide support for councils and communities to tackle transport and land use emissions
- Provide dedicated policies and funding to support community-wide emissions reduction efforts by councils and communities.

Federal government

- Align Australia's national targets to the ambition required to meet 1.5°C targets and global expectations.
- Provide leadership, policies, and resources to enable councils and communities to set and meet ambitious emissions reductions targets.
- Develop an electric vehicle strategy to ensure Australia can make the most of the rapid transition to EVs occurring globally in a managed and targeted way
- Report on the role of local government in contribution to the Paris Agreement through the UNFCCC dialogue and in annual national status updates to the UN CoP process
- Support the proposed [Local Power Plan](#) to enable effective community energy projects
- Take advantage of Australia's unparalleled resources to become a renewable energy superpower
- Grow investment in regional and rural areas through mechanisms such as ARENA and the CEFC
- Ensure workers in carbon intensive and carbon-exposed industries are supported through the transition to low emissions industries
- Support education and training in zero emissions jobs

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Conclusion

As we move into the critical decade of the climate crisis, local councils and communities in Australia have only increased their level of climate ambition, scope and climate action. A better understanding of the challenges and opportunities faced by the sector and appetite for change from their communities has meant a more sophisticated approach to program delivery. Ambition has ramped up.

With the adoption of the Paris Agreement, local governments throughout the world are explicitly recognised as central to meeting the global climate challenge. Australian councils are rising to that challenge, building on decades of local action and leadership. As Australian councils continue to increase their science-based ambitions, there is an urgency to collaborate with all levels of government, stakeholders and community to accelerate regional action at the scale and pace needed to keep global temperature rise below 1.5°C.

Councils continue to take positive steps to set and meet corporate emissions targets and have some budget allocation to achieve these goals. Additionally, 80% of responding councils now have, or intend to have, community-wide emissions

reduction targets. Net zero targets with rapid timeframes are required to meet the challenge at hand. Through the declaration of a climate emergency from 100 Australian councils, and the subsequent development of climate emergency action plans, councils are making it increasingly clear that meeting net-zero targets is not something they can achieve alone and requires support and action at all levels of community, businesses and government.

The global response to COVID-19 has provided a teaser of the scale of disruption possible from climate change impacts. It has also demonstrated how significant changes in individual behaviour and local, state and national policies can be enacted incredibly quickly and profiled the responsibility and leadership of

governments required to ensure the safety and wellbeing of their communities.

The past year has shown that our society is able to respond fast to disruption and demonstrate incredible resilience. We can use this as a learning opportunity to engage all levels of society to secure a safer future for all.

Taking action on climate will help us prepare for future risks and increase our preparedness for economic, social and environmental impacts. By addressing

actions and ensuring co-benefits are enacted we can deliver new jobs, improved health and sustainable, equitable local economies.

Structure and support is available for both communities and councils to set and meet corporate and community-wide targets. We look forward to continuing to work with councils and communities to accelerate progress in the race to reduce emissions and maintain a safe climate for all.



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Survey Questions

Local Government Review Survey Questions

1. Contact information
2. Are you responding to this survey as an individual, a community group or a council representative?

Council Questions

1. In which state or territory is your council located?
2. Which of the following best describes your role at Council?
3. If applicable, what is your position title at Council?
4. How long have you been at Council?
5. Does your council have a baseline emissions inventory for council operations? (Also known as corporate or internal emissions)
6. What is the baseline inventory for Council? – Baseline value in tCO₂e; Baseline year; Link (if applicable)
7. Are you satisfied with Council's greenhouse gas inventory for Council operations?
8. What accounting methods, tools, or registries did Council use in the development of this inventory for Council operations? Please select all that apply: Climate Active certification, formerly known as the National Carbon Offset Standard (NCOS); National Greenhouse and Energy Reporting (NGERS); Cities for Climate Protection (CCP); International Local Government Greenhouse Gas Emissions Analysis Protocol (IEAP); Planet Footprint; Carbons; CIRIS; Our own spreadsheet; Not developed according to standard accounting method; Other (please specify)
9. Does Council regularly review the emissions inventory for Council operations?
10. Please provide the frequency of review of the emissions inventory of Council operations.
11. Other than through Snapshot, does Council have a recent (after 2015) baseline profile (or "inventory") of community-wide emissions?
12. What is the baseline value for community-wide emissions? – Baseline value (in tCO₂e); Baseline year; Link (if applicable)
13. Are you satisfied with Council's (non-Snapshot) community-wide emissions profile?
14. Does Council regularly review its emissions profile for community-wide emissions?
15. Please provide the frequency of review of the emissions inventory of community emissions.
16. How was the community-wide emissions profile developed? Please select all that apply: I don't know; Global Protocol for Community-Scale Greenhouse Gas Emissions (GPC); CIRIS; Carbons Climate Register (CCR); CDP-ICLEI unified reporting; Own Excel spreadsheet; Not developed according to a standard accounting method; Other (please specify)
17. Prior to completing this survey, were you aware of your council's Snapshot community emissions profile?
18. Are you satisfied with your Snapshot community-wide emissions profile? (Available at www.snapshotclimate.com.au)
19. Snapshot has a partnership with Google and some profiles now have data from the Environment Insights Explorer (EIE) platform incorporated into the transport profile. Are you aware of EIE and the availability of Google data?
20. Is transport data from EIE in Snapshot useful to your council?
21. If you had access to one new insight (dataset) about your community, what would it be?
22. We're looking at making updates and improvements to Snapshot over the next few years. What key improvements or updates would you like to see incorporated into Snapshot?
23. How have you used Snapshot at your council?

Survey Questions continued

24. We've received a lot of feedback on Snapshot over the last few years. Having testimonials helps us with funding applications and to support our case. If Snapshot has helped you, your council or your community (through understanding your emissions profile, using in communications, using in reports etc.), please let us know what you think! We won't be offended if you've got nothing to say here, but if it has been valuable to you, please leave us a testimonial.
25. Does Council have (or intend to have) a target for greenhouse gas emissions reduction for council operations?
26. What is your target (in percentage or real terms), base year and target year for council operations? - Target (tCO₂e or %); Base year; Target year
27. When was the greenhouse gas emissions reduction target for council operations introduced?
28. When was the greenhouse gas emissions reduction target for council operations last updated?
29. How do you define your target to reduce greenhouse gas emissions for council operations?
30. Is the greenhouse gas emissions target for council operations sector- specific?
31. Which sectors have specific targets to reduce greenhouse gas emissions for Council operations? Please specify targets and timeframes for each of: Energy; Transport; Waste; Buildings; Other
32. How confident are you that Council will meet its emission reduction targets for council operations?
33. What observations do you have about council meeting its operational emissions targets?
34. In general, what are some of the key barriers/challenges you've found in setting targets for greenhouse gas emissions for council operations? Please select all that apply: Accurate data; Councillor buy-in; High-level support; My own lack of knowledge/understanding of targets; Lack of knowledge/understanding around targets at Council more broadly; Inability to reach potential targets; No barriers; Other (please specify)
35. Does Council have (or intend to have) a target for community-wide greenhouse gas emissions reduction?
36. What is the community-wide greenhouse gas emissions reduction target, base year and target year? - Target (tCO₂e or %); Base year; Target year
37. When was the community-wide greenhouse gas emissions reduction target introduced?
38. When was the community-wide greenhouse gas emissions reduction target last updated?
39. How do you define your target to reduce community-wide greenhouse gas emissions?
40. How confident are you that Council will meet its community-wide emissions reduction target?
41. If you are not confident that Council will meet its community-wide emissions reduction target, why is this?
42. Is the greenhouse gas emissions reduction target to reduce community-wide emissions sector-specific?
43. Which sectors have specific targets to reduce community-wide greenhouse gas emissions? Please specify targets and timeframes:

44. In general, what are some of the key barriers/challenges you've found in setting community-wide greenhouse gas emissions targets? Please select all that apply: Accurate data; Councillor buy-in; High-level support; My own lack of knowledge/understanding of targets; Lack of knowledge/understanding around targets at Council more broadly; Inability to reach potential targets; Council is not responsible for the majority of emissions; No barriers; Other (please specify)
45. Has your council declared a climate emergency?
46. How has declaring a climate emergency changed the way your council is responding to climate change? Please choose all that apply. Increased/accelerated emissions reduction targets; Helped prioritising resources for climate action; Helped make climate change a consideration for all parts of Council operations; Our budgeting and resourcing for climate action is safer; It hasn't changed anything yet; Other (please specify)
47. How much budget did Council have towards reducing emissions from council operations in 2019-20? This can include budget for project planning, delivery, implementation, management; development of strategies, plans or business cases; communication; consultants).
48. Does Council have (or intend to have) strategies, costed implementation plans and/or policies in place to reduce greenhouse gas emissions from Council operations?
49. Please describe the strategies, plans and/or policies in place (or intended to be put into place) to reduce greenhouse gas emissions from Council operations (include links if possible)
50. For each of the following operational emissions sources, which areas have (or are intended to have) effective strategies for emissions reductions? Please select all that apply: Buildings (Council facilities); Street lighting; Fleet; Waste; Wastewater (if applicable); None
51. How much budget did Council have towards community-wide emissions reduction in 2019-2020? This can include budget for project planning, delivery, implementation, management; development of strategies, plans or business cases; communication and education; consultants.
52. Does Council have (or intend to have) strategies, costed implementation plans and/or policies in place to reduce community-wide greenhouse gas emissions?
53. Please describe the strategies, plans and/or policies in place (or intended to be put into place) to reduce community-wide greenhouse gas emissions (include links if possible)
54. For each of the following community emissions sources, which areas have (or are intended to have) effective strategies for emissions reductions? Please select all that apply: Stationary energy; Transport; Waste; Industrial processes and product use; Agriculture, forestry and other land use; None; I don't know; Other (please specify)
55. Have you implemented any of the following actions that councils can undertake to reduce emissions from council operations? [See report for full list of actions]
56. Which, if any, of the following actions that councils can undertake to reduce emissions from council operations do you consider to be a significant opportunity to reduce emissions? Please select all that apply: [actions as per above]
57. In general, what are the key barriers to reducing greenhouse gas emissions from council operations? Please select your top three barriers: Funding; Internal resourcing; Technical expertise; Political support; Senior management support; Apathy; Unclear high-level targets/policies; State legislation and policy; Federal legislation and policy; Other (please specify)

Survey Questions continued

58. Have you implemented any of the following actions that councils can undertake in the broader community to reduce emissions? [See report for full list of actions]
59. Which of the following actions that councils can undertake in the broader community to reduce emissions do you consider provide a significant opportunity to reduce emissions? Please select all that apply: [Actions as above]
60. In general, what are the key barriers to reducing community-wide greenhouse gas emissions? Please select your top three. Funding; Internal resourcing; Technical expertise; Political support; Senior management support; Apathy; Unclear high-level targets/policies; State legislation and policy; Community support; Climate change impacts (i.e. heatwaves/drought/bushfire/flood); Other (please specify)
61. What corporate (or internal) climate action project from the last few years are you most proud of or excited by? It can be something you've completed, have been a partner to, or are in the planning stages.
62. Why are you most proud/excited by this project?
63. What community (or external) climate action project from the last few years are you most proud of or excited by? It can be something you've completed, have been a partner to, or are in the planning stages.
64. Why are you most proud of this project or excited by it?
65. Are you happy to share this project info as a case study for this report?
66. Does council have strategies in place to monitor and evaluate actions (or projects) to reduce greenhouse gas emissions for council operations?
67. Do you use these results to modify or improve project delivery during a project?
68. If you have any comments on the above, please provide them below:
69. Does Council have strategies in place to monitor and evaluate community-wide actions (or projects) to reduce greenhouse gas emissions?
70. Do you use these results to modify or improve project delivery during a project?
71. If you have any comments on the above, please provide them below:
72. Overall, do you think that Council's monitoring and evaluation is adequate for delivery of your emissions reduction projects?
73. Please provide any comments on Council's monitoring and evaluation:
74. Is the national or international reporting and verification of inventories important to you?
75. Which reporting platforms do you use? Please select all that apply: Global Covenant of Mayors (GCoM); CDP; CDP Cities; Non-state Actor Zone for Climate Action (NAZCA); None; Other (please specify)
76. Has climate change impacted your local community or council operations?
77. If yes, please explain in a few sentences how climate change has impacted your council and/or community?
78. Do you feel your council or community is well prepared to respond to the impacts of climate change, such as heatwaves, increased fire risk, flooding or drought?
79. Any further comments on your council or community's preparedness to respond to the impacts of climate change?
80. Please select the top three entities you feel should be most responsible to cover the cost of climate impacts. Federal Government; State Government; Local Government; Local communities; Insurers; The fossil fuel industry; Other (please specify)
81. Would you support a levy on fossil fuel exports to create a climate disaster fund?
82. Does your council have a climate change risk assessment?
83. If yes, what year was the assessment carried out?
84. Has your council implemented (or is currently implementing) any climate change adaptation initiatives?

85. If yes, what climate change adaptation initiatives has Council implemented? (or is currently implementing?)
86. Does your council have (or intend to have) a plan or strategy to guide climate change adaptation?
87. How is the adaptation plan framed (or intended to be framed) - for example as adaptation or risk? Resilience? Climate response plan?
88. Is the adaptation plan linked (or planned to be linked) to any state, regional or international process?
89. If yes, please provide the process/es name:
90. Is the adaptation plan incorporated (or planned to be incorporated) into a climate mitigation (or greenhouse gas reduction) plan or strategy?
91. If yes, please provide details:
92. How important is the role of local government in meeting global climate targets?
93. How important is the role of local government in meeting global climate targets?
94. Do you feel the local government contribution to the climate challenge is adequately recognised by each of the following? Federal government; State government; Community
95. What resources are needed for Australian local governments to make a more significant contribution to the global climate challenge?
96. How valuable are international climate programs to your council?
97. Does your council work in partnership with any of the following organisations or programs? Select as many as appropriate:
98. If applicable, which community organisations does your council work with?
99. Does your council support local leaders working in the climate space?
100. If so, how does council support local leaders working in the climate space? Please choose all that apply: Payment; Resourcing; In-Kind Support; Grants; Other (please specify)
101. Some councils have a fossil fuel divestment commitment (e.g. City of Fremantle, Moreland City Council, ACT). Does your council have (or intend to have) a divestment commitment?
102. If yes, please provide a description the divestment commitment
103. How satisfied are you with your State Government's approach to meet state or global targets?
104. How satisfied are you with the Federal Government approach to meet global targets?
105. How engaged do you feel your community is in developing and implementing a climate plan?
106. Has Covid-19 impacted on your council's climate programs and action planning?
107. In a few sentences, can you provide any further information as to the impact of Covid-19 on your council's climate programs? For example, has it strengthened the importance of resilience? Or impacted negatively on budgets?
108. Are there any particular areas where your council needs further assistance? Please select all that apply: Developing emissions inventories; Developing climate risk assessments; Developing emission reduction targets; Developing climate change adaptation strategies; Developing climate mitigation plans; Prioritising mitigation actions; Reporting emissions and actions; Other (please specify); None of the above
109. What are the three key resources that would help your council accelerate its climate change response? (Corporate and/or community emissions)

Community Group Questions

1. Do you belong to a community group that has an interest in climate change solutions?
2. If your answer is Yes, what is the name of your community group?
3. Are you part of a Zero Carbon Community?
4. If Yes, which one?
5. Please tell us a little about you and your community.

Survey Questions continued

6. Are you involved in local projects to reduce greenhouse gas emissions?
7. If yes, please describe the projects
8. Which actions are you or your community involved in? Community engagement; Council collaboration; Projects; Transition strategy or action plans; Storytelling; Investment; Other
9. Do you or members of your group identify as Aboriginal or Torres Strait Islander (ATSI)?
10. Do you or members of your group identify as culturally or linguistically diverse?
11. Is your local community engaged with climate change solutions or the transition to zero emissions?
12. Do you think your community can benefit from a transition towards zero emissions? Please select all that apply: New local jobs; Safer environment; Community resilience; Stronger networks; Investment opportunities; New industries; Cheaper energy; None of the above; Other (please specify)
13. Are there local groups or champions supporting climate action in your community?
14. Please tell us about these groups or champions:
15. Does your community have a climate or zero emissions transition strategy or action plan?
16. If your answer is Yes, please tell us about it
17. If your answer is No in the question above, what support might you or your community group need to develop a local transition strategy or action plan?
18. Do you or your group have established relationships with key decision-makers in your community?
19. If your answer is Yes, please tell us about the decision makers
20. Have you engaged with businesses or industry in your community on climate or zero emissions solutions?
21. If your answer is Yes, please tell us which ones
22. Have you engaged with local Traditional Owners on climate or zero emissions solutions?
23. If your answer is Yes, please tell us which ones
24. What do you think of the climate change response from the following? State government; Federal government; Local council; Local businesses; Local industries
25. What tools do you use to engage with the community? Social media; Newsletters; Website; Events; Meetings with local representatives; Other (please specify)
26. Does your community group have a communications plan?
27. If your answer is Yes, briefly describe your communications plan.
28. Which sectors are most of interest to you or your community? Rank the following in order of priority (top to bottom). Waste; Energy; Buildings; Transport; Land Use; Industry; Education and Training; Community Engagement; Other
29. Are there other sectors of interest to you or your community?
30. Are you aware of Beyond Zero Emissions Million Jobs Plan?
31. Are you aware of the Zero Carbon Community Guide?
32. Are you aware of the Snapshot Climate tool?
33. Are you or your community group aware of Google's Environmental Insight Explorer?
34. If your answer is Yes, please tell us how you use GEIE:
35. Have you used any of the following resources to support your group's activities? Please select all that apply: The Million Jobs Plan; Zero Carbon Communities Guide; Zero Carbon Community Resource Folder; Snapshot Climate Tool; Google Environmental Insights Explorer
36. Have you shared your local Snapshot emissions profile with others in your community?

37. Has Snapshot helped you understand local opportunities or actions to reduce emissions?
38. Does your council have a target to reduce greenhouse gas emissions for council operations?
39. If you know the council's target, base year and target year, please tell us:
40. Does your council have a target to reduce greenhouse gas emissions for the whole community?
41. If you know the council's target, base year and target year, please tell us:
42. Does your community have a target to reduce greenhouse gas emissions for the whole community?
43. If available, please provide a link to your target and related information:
44. Is your local council engaged on climate action?
45. Have you or your group engaged with your local council on climate or zero emissions issues?
46. If your answer is Yes, how have you engaged?
47. Does your local council have a community-wide climate action plan or target?
48. How confident are you that council will meet its community wide emission reduction targets?
49. Have you or your group contributed to local council submissions, committees or action plans?
50. If Yes, please tell us about your contributions.
51. Has your council joined the Cities Power Partnership?
52. Has your council joined the Global Covenant of Mayors?
53. Has your council declared a climate emergency?
54. Are any of the following projects of interest to you or your community group? Please select all that may be of interest. Building retrofits; Renewable Energy Industrial Precincts; Community energy projects; Renewable hydrogen; Community batteries; Electric vehicle, public transport or cycling infrastructure; Green steel or aluminium; Land regeneration
55. Do you have any current zero emission projects underway in your community?
56. What investment opportunities do you see for local climate projects?
57. Have you or your community group been successful in obtaining funding for your activities?
58. If your answer above is Yes, where have you obtained funding?
59. Have you or your community group explored other ways to raise funds for your activities?
60. If yes, please provide more information.
61. If you had the option, would you consider investing in a commercial renewable energy project in your community?
62. Would an agency to support local renewable projects be helpful to your council or community?
63. If yes, please provide more information
64. Do you or your community group have projects (or ideas) that would benefit from obtaining funding?
65. If yes, please provide more information
66. Would assistance from BZE in sourcing funding be helpful?
67. if yes, please provide more information
68. Would you or community benefit from support from BZE volunteers?
69. If you answered Yes above, what type of support would be most beneficial? Select all that apply: Community engagement; Media training; Strategy or action plan development; Project support; Social media; Graphic design; Events; Other (please specify)

Survey Questions continued

70. What do you believe are the key concerns for your community? Local employment; Recovery from COVID; Environment; Extreme weather/climate events; Health; Education
71. Has climate change impacted your local community?
72. If Yes, how has climate change impacted your council or community?
73. Any further comments on your council or community's capacity to respond to climate change impacts?
74. Please rank in order who you feel should be most responsible to cover costs of climate impacts. Federal Government; State Government; Local Government; Local communities; Insurers; The fossil fuel industry; Other
75. If you included 'Other' above, please specify.
76. Would you support a levy on fossil fuel exports to create a climate disaster fund?
77. Does your council have a climate change risk assessment plan or strategy?
78. Has your council worked on any climate change adaptation initiatives?
79. If Yes, what climate change adaptation initiatives has Council implemented?
80. Please tell us a little about you and your community.
81. Do you belong to a community group that has an interest in climate change or zero emissions?
82. If your answer is Yes, what is the name of your community group?
83. Are you part of a Zero Carbon Community?
84. If Yes, which one?
85. Are you involved in local projects to reduce greenhouse gas emissions?
86. If yes, please describe the projects
87. Which actions are you or your community involved in? Community engagement; Council collaboration; Projects; Transition strategy or action plans; Storytelling; Investment; Other

Individual Questions

1. Do you identify as an Aboriginal or Torres Strait Islander?
2. Do you identify as culturally or linguistically diverse?
3. Is your local community engaged with climate change solutions or the transition to zero emissions?
4. Will your community benefit from a transition towards zero emissions? Please select all that apply: New local jobs; Safer environment; Community resilience; Stronger networks; Investment opportunities; New industries; Cheaper energy; Other (please specify); None of the above
5. Are there local groups or champions supporting climate action in your community?
6. Please tell us about these groups and champions:
7. Does your community have a climate or zero emissions transition strategy or action plan?
8. If your answer is Yes, please tell us about it
9. If your answer is No in the question above, what support might you or your community group need to develop a local transition strategy or action plan?
10. Do you or your group have established relationships with key decision-makers in your community?
11. If your answer is Yes, please tell us about the decision makers.
12. Have you engaged with businesses or industry in your community on climate or zero emissions solutions?
13. If your answer is Yes, please tell us which ones
14. Have you engaged with local Traditional Owners on climate or zero emissions issues?
15. If your answer is Yes, please tell us which ones
16. What do you think of the climate change response from the following? State government; Federal government; Local council; Local businesses; Local industries

17. What tools do you use to engage with your community? Social media; Newsletters; Website; Events; Meetings with local representatives; Other (please specify)
18. Which sectors are most of interest to you or your community? Rank the following sectors in order of priority (1 being the highest) for you. Waste; Energy; Buildings; Transport; Land Use; Industry; Education and Training; Community Engagement; Other
19. Are there other sectors of interest to you or your community?
20. Please rank the following key concerns for your community - with the highest priority at the top. Local employment; Recovery from COVID; Environment; Extreme weather/climate events; Health; Education
21. Are you aware of the Beyond Zero Emissions Million Jobs Plan?
22. Are you aware of the Zero Carbon Community Guide?
23. Are you aware of the Snapshot Climate tool?
24. Are you aware of Google's Environmental Insight Explorer data?
25. If your answer is Yes, please tell us how you have used it.
26. Have you used any of the following resources to support your or your group's activities? Please select all that apply: Million Jobs Plan; Zero Carbon Communities Guide; Snapshot Climate Tool; Google Environmental Insights Explorer